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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

In The Matter Of: Ninth Avenue Dump Respondents: Listed in Attachment 1 Proceeding Under Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. § 9606(a))	U.S. EPA Docket No. V-W-95-C-277

ADMINISTRATIVE ORDER
FOR REMEDIAL DESIGN AND REMEDIAL ACTION

I. INTRODUCTION AND JURISDICTION

1. This Order directs the Respondents listed in Attachment 1 to this Order (the "Respondents") to perform a remedial design for the remedy described in the Record of Decision Amendment dated September 13, 1994 (the "ROD Amendment") for the Ninth Avenue Dump site (or the "Site"), Operable Unit No. 2, and, to the extent relevant and not otherwise amended or superseded by the ROD Amendment, in the Explanation of Significant Differences dated October, 1991, the Record of Decision dated June 30, 1989, and the Record of Decision dated September 20, 1988, and to implement the design by performing a remedial action. This Order is issued to Respondents by the United States Environmental Protection Agency ("U.S. EPA") under the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. § 9606(a). This authority was delegated to the Administrator of U.S. EPA on January 23, 1987, by Executive Order 12580 (52 Fed. Reg. 2926), and was further delegated to the Regional Administrator on

September 13, 1987 by U.S. EPA Delegation No. 14-14 and 14-14A, and to the Director, Waste Management Division, Region V, by delegation 14-14B.

II. PARTIES BOUND

2. This Order shall apply to and be binding upon each Respondent identified in paragraph 7 and its successors and assigns. Each Respondent is jointly and severally responsible for carrying out all activities required by this Order. Failure of one or more Respondents to comply with all or any part of this Order shall not in any way excuse or justify noncompliance by any other Respondents. No change in the ownership, corporate status, or other control of any Respondent shall alter any of the Respondent's responsibilities under this Order.

3. Each Respondent shall provide a copy of this Order to any prospective owners or successors before a controlling interest in Respondent's assets, property rights, or stock are transferred to the prospective owner or successor. Respondents shall provide a copy of this Order to each contractor, subcontractor, laboratory, or consultant retained to perform any work under this Order, within five days after the effective date of this Order or on the date such services are retained, whichever is later. Respondents shall also provide a copy of this Order to any person acting on behalf of Respondents with respect to the Site or the work and shall ensure that all contracts and subcontracts entered into hereunder require performance under the contract to be in conformity with the terms and work required by this Order. With regard to the activities undertaken pursuant to this Order, each contractor and subcontractor shall be deemed to be related by contract to the Respondents within the meaning of Section 107(b)(3) of CERCLA, 42 U.S.C. § 9607(b)(3). Notwithstanding the terms of any contract, each Respondent is responsible for compliance with this Order and for ensuring that

its contractors, subcontractors and agents perform all work in accordance with this Order.

4. Not later than thirty (30) days prior to any transfer of any interest in any real property included within the Site, Respondents shall submit a true and correct copy of the transfer documents to U.S. EPA, and shall identify the transferees by name, principal business address and effective date of the transfer.

III. DEFINITIONS

5. Unless otherwise expressly provided herein, terms used in this Order which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in the statute or its implementing regulations. Whenever terms listed below are used in this Order or in the documents attached to this Order or incorporated by reference into this Order, the following definitions shall apply:

a. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. § 9601 et seq.

b. "Day" shall mean a calendar day unless expressly stated to be a working day. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the end of the next working day.

c. "IDEM" shall mean the Indiana Department of Environmental Management.

d. "National Contingency Plan" or "NCP" shall mean the National Contingency Plan promulgated pursuant to § 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

e. "Paragraph" shall mean a portion of this Order identified by an Arabic numeral.

f. "Performance Standards" shall mean those cleanup standards, standards of control, and other substantive requirements, criteria or limitations, identified in the Record of Decision Amendment and, to the extent relevant and not otherwise amended or superseded by the ROD Amendment, in the Explanation of Significant Differences dated October, 1991, the Record of Decision dated June 30, 1989, and the Record of Decision dated September 20, 1988, and in the Statement of Work, that the remedial action and work required by this Order must attain and maintain.

g. "Record of Decision Amendment" or "ROD Amendment" shall mean the U.S. EPA Record of Decision Amendment relating to the Ninth Avenue Dump site, Operable Unit No. 2, executed on September 13, 1994 by the Regional Administrator, U.S. EPA, Region V, and all attachments thereto, which is incorporated herein by reference, attached hereto and made a part hereof as Attachment 2.

h. "Response Costs" shall mean all costs, including direct costs, indirect costs, and interest incurred by the United States to perform or support response actions at the Site, including, but not limited to, contract and enforcement costs.

i. "Section" shall mean a portion of this Order identified by a Roman numeral and includes one or more paragraphs.

j. "Section 106 Administrative Record" shall mean the Administrative Record which includes all documents considered or relied upon by U.S. EPA in preparation of this Order. The Section 106 Administrative Record Index is a listing of all documents included in the Section 106 Administrative Record, and is attached hereto as Attachment 3.

k. "Site" shall mean the Ninth Avenue Dump Superfund site, encompassing approximately 17 acres, located at 7537 Ninth Avenue in Gary, Indiana, as described in the Record of Decision Amendment and includes, but is not limited to, all property which has been contaminated as a result of a release from the facility and areas adjacent thereto.

l. "State" shall mean the State of Indiana.

m. "Statement of Work" or "SOW" shall mean the statement of work for implementation of the remedial design, remedial action, and operation and maintenance at the Site, as set forth in Attachment 4 to this Order. The Statement of Work is incorporated into this Order and is an enforceable part of this Order.

n. "Work" shall mean all activities Respondents are required to perform under this Order and all attachments hereto, including, but not limited to, remedial design, remedial action, and operation and maintenance.

IV. DETERMINATIONS

6. The Ninth Avenue Dump site (the "Site") is an inactive chemical and industrial waste disposal site located at 7537 Ninth Avenue in Gary, Indiana. Chemical and industrial wastes containing hazardous substances were disposed of at the Site from approximately 1970 through 1975, and perhaps later. The Site occupies approximately 17 acres and is situated in an area of mixed industrial, commercial, and residential use approximately 1/8 mile east of Cline Avenue. The nearest residential area begins on the west side of Cline Avenue. The Site is approximately 1-1/4 miles south of the Grand Calumet River and 1-3/4 miles north of the Little Calumet River. The Record of Decision Amendment dated September 13, 1994 as well as the Explanation of Significant Differences dated October, 1991, the Record of Decision dated June 30, 1989, and the Record of Decision dated September 20, 1988 further describe the past uses and conditions at the Site.

7. Respondents:

a. Respondent Juanita Douglas is now, and has been since on or about July 28, 1988, an owner, or the owner, and an operator, or the operator, of the Facility.

b. Respondent Steve Martell (now deceased and succeeded by the Estate of Steve Martell) was, from on or about 1970 until or

after 1975, an owner, or the owner, and the operator of the Facility. During that time hazardous substances, including some or all of those described in this section, were disposed of at the Facility.

c. The remaining Respondents listed in Attachment 1 arranged, by contract or agreement or otherwise, for the disposal or treatment of, or arranged with a transporter for transport for disposal or treatment of, hazardous substances owned or possessed by said Respondents, by any other person or entity, at a facility and the hazardous substances were treated or disposed at the Facility. Hazardous substances of the same kind as those owned or possessed by said Respondents listed in Attachment 1 are contained at the Facility.

8. The Respondents identified in paragraph 7 are collectively referred to as "Respondents."

9. On September 8, 1983, pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, U.S. EPA placed the Ninth Avenue Dump site on the National Priorities List, set forth at 40 C.F.R. Part 300, Appendix B.

10. In 1975, the Indiana State Board of Health ("ISBH") inspected the Site. The inspection documented the existence of approximately 10,000 55-gallon drums at the surface, many of which were empty. Evidence was also found that liquid wastes had been dumped on-site. A State inspector estimated that approximately 500,000 gallons of liquid industrial waste had been dumped and 1,000 drums had been buried on-site. Subsequent inspections revealed portions of discarded auto batteries, drummed liquid wastes and abandoned tanker trucks. In 1975, the Facility operator, Steve Martell, was ordered by ISBH to clean up the Site. On September 25, 1980, U.S. EPA brought an action in the United States District Court for the Northern District of Indiana against Steve Martell pursuant to the Resource

Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6901 et seq. for the investigation and cleanup of the Site; subsequently, on December 7, 1983, a Partial Consent Judgment ("PCJ") was entered for site investigation and cleanup. However, although some material was removed from the Site, Steve Martell failed to proceed with and perform investigatory and cleanup activities in compliance with the PCJ. Consequently, in 1985, pursuant to and in accordance with CERCLA and the National Contingency Plan, U.S. EPA undertook responsibility for conducting a Remedial Investigation ("RI") and Feasibility Study ("FS") for the Site.

11. The RI, which was performed to define the nature and extent of contamination at the Site and to characterize the potential threats to public health and the environment from it, was initiated in October, 1986 and was completed in June, 1988. A Phased Feasibility Study ("PFS"), performed to evaluate alternative remedial actions for cleaning up an oil layer on the groundwater at the Site, was initiated in November, 1987 and completed in June, 1988. The final Feasibility Study ("FS"), performed to evaluate alternative remedial actions for cleaning up remaining contamination in soils, sediments, and groundwater at the Site, was initiated in April, 1987 and completed in January, 1989.

12. On September 20, 1988, pursuant to and in accordance with CERCLA and the National Contingency Plan, U.S. EPA issued a Record of Decision for an interim site remedy (ISR ROD) (first operable unit or Operable Unit No. 1), which is incorporated herein by reference. On June 30, 1989, pursuant to and in accordance with CERCLA and the National Contingency Plan, U.S. EPA issued a Record of Decision for a final site remedy (FSR ROD) (second operable unit or Operable Unit No. 2), which is incorporated herein by reference. In October, 1991, pursuant to and in accordance with CERCLA and the National Contingency Plan, U.S. EPA issued an Explanation of Significant Differences (ESD),

which is incorporated herein by reference, that modified the 1988 ISR ROD. The 1991 ESD described changes that were to be made in the interim site remedy and the components of the final site remedy that were to be implemented as part of the interim site remedy. On March 29, 1994, pursuant to § 117 of CERCLA, 42 U.S.C. § 9617, U.S. EPA published notice of the proposed plan for the remedial action described in the Record of Decision Amendment dated September 13, 1994, and provided opportunity for public comment on the proposed amended remedial action. Similarly, Respondents were given an opportunity to comment on the proposed plan for remedial action and to supplement the Administrative Record regarding a decision for selection of the final plan for remedial action.

13. On September 13, 1994, U.S. EPA executed and issued the Record of Decision Amendment (the "ROD Amendment") for the Ninth Avenue Dump site, amending the site remedy. The State of Indiana has given its concurrence on the ROD Amendment. The ROD Amendment is incorporated herein by reference, an enforceable part of this Order and attached hereto as Attachment 2. The ROD Amendment is supported by an Administrative Record which contains the documents and information upon which U.S. EPA based the selection of the response action. U.S. EPA's selected response action set out in the ROD Amendment has been determined to provide adequate protection of public health, welfare and the environment; meet all federal and State environmental laws; and be cost effective.

14. On July 6, 1987, U.S. EPA issued information requests to Potentially Responsible Parties ("PRPs") identified in connection with the Site, including many of the Respondents. On March 3 and March 9, 1988, U.S. EPA issued Notice Letter/Information Requests to PRPs identified in connection with the Site. On July 7, 1988, U.S. EPA issued Special Notice/Demand Letters to PRPs identified in connection with the Site. On December 7, 1988, pursuant to

Section 106 of CERCLA, U.S. EPA issued an Unilateral Administrative Order ("UAO") with an effective date of December 30, 1988, ordering approximately 177 Potentially Responsible Parties ("PRPs"), including the Respondents (with the exception of Juanita Douglas, American Nameplate, Blaw Knox, Chamberlain Manufacturing Co., Chicago Sheepskin, and Northwest Screen Print), to implement the remedy described in the 1988 ISR ROD. On March 17, 1989, U.S. EPA issued Special Notice/Demand Letters to PRPs identified in connection with the Site. On August 17, 1989, U.S. EPA issued an UAO with an effective date of November 6, 1989, ordering approximately 188 PRPs, including the Respondents (with the exception of Juanita Douglas), to implement the second operable unit. On January 30, 1991, U.S. EPA issued a de minimis administrative order on consent under Section 122(g) of CERCLA, 42 U.S.C. § 9622(g), limiting liability for 85 PRPs. On July 12, 1993, the Ninth Avenue Program Interim Site Remedy Remedial Action Report, dated March 1993, was accepted as the remedial action report for the interim site remedy; the acceptance of this report demonstrated the formal completion of the remedial action for that operable unit. On May 28, 1993, U.S. EPA issued an information request to Juanita Douglas. On June 10, 1994, U.S. EPA issued a general notice of potential liability to Juanita Douglas.

15. Large quantities of hazardous chemical, industrial and other wastes generated by the Respondents were directly discharged on and/or otherwise dumped and disposed of at the Site. As a result, high levels of commingled hazardous contamination was and is present both in the soil and in the groundwater at the Site. Analyses of soils, waste and fill materials performed during the RI revealed the presence of numerous hazardous substances as defined in Section 101(14) of CERCLA, including benzene, ethylbenzene, toluene, xylene, chlorinated solvents, polynuclear aromatic hydrocarbons ("PAHs"), pesticides, and polychlorinated biphenyls ("PCBs"). These contaminants were and are present in

subsurface soils at and below the water table and continue to be released into groundwater. Compounds detected in soils and waste and associated maximum detected concentrations (in units of µg/kg) include: (1) methylene chloride at 200,000; (2) 2-butanone at 450,000; (3) 1,1,1-trichloroethane at 210,000; (4) trichloroethene at 69,000; (5) benzene at 25,000; (6) tetrachloroethene at 250,000; (7) toluene at 5,300,000; (8) ethylbenzene at 2,700,000; (9) styrene at 11,000,000; (10) total xylenes at 7,100,000; (11) napthalene at 160,000; (12) 2-methylnaphthalene at 630,000; (13) acenaphthene at 100,000; (14) dibenzofuran at 78,000; (15) fluorene at 150,000; (16) phenanthrene at 690,000; (17) anthracene at 81,000; (18) flouroanthene at 240,000; (19) pyrene at 140,000; (20) chrysene at 63,000; (21) benzo(a)pyrene at 46,000; (22) 4,4 DDE at 3,600; (23) Aroclor 1248 (a PCB) at 24,000; and (24) Aroclor 1254 (a PCB) at 190,000. Analyses of groundwater performed during the RI revealed the presence of numerous hazardous substances as defined in Section 101(14) of CERCLA, including benzene, ethylbenzene, toluene, xylene, chlorinated solvents, polynuclear aromatic hydrocarbons (PAHs), and metals. Compounds detected in groundwater and associated maximum detected concentrations (in units of µg/l) include: (1) 1,1-dichloroethane at 2,400; (2) 2-butanone at 2,100,000; (3) 1,1,1-trichloroethane at 2,800; (4) trans-1,2-dichloroethene at 49,000; (5) benzene at 16,000; (6) tetrachloroethene at 130; (7) toluene at 90,000; (8) ethylbenzene at 6,900; (9) 4-methyl-2-pentanone at 630; (10) total xylenes at 39,000; (11) napthalene at 77,000; (12) 2-methylnaphthalene at 220,000; (13) acenaphthylene at 1,600; (14) dibenzofuran at 52; (15) phenanthrene at 56,000; (16) anthracene at 57,000; (17) 4-methylphenol at 11,000; (18) flouroanthene at 12,000; (19) pyrene at 8,900; (20) chrysene at 3,100; (21) benzo(a)pyrene at 970; (22) acenaphthene at 13,000; (23) N-nitrosodiphenylamine at 20,000; (24) benzo(a)anthracene at 1,200; (25) benzo(b)fluoranthene at 890; (26) aluminum at 1,290; (27) cadmium

at 20; (28) chromium at 558; (29) iron at 148,000; (30) nickel at 12,500; (31) silver at 100,000; and (32) zinc at 23,330.

16. Numerous contaminants detected at the Site are listed as hazardous in 40 C.F.R. § 302.4, have acute and chronic adverse health effects on humans and animals, and are known or suspected to be carcinogenic. Benzene is known to cause dizziness, headaches, and loss of consciousness in acute exposures. Chronic exposure to benzene has been associated with cytotoxic blood disorders in humans, including aplastic anemia and leukemia. Toluene is a narcotic, and symptoms of fatigue, weakness, and confusion are associated with inhalation exposures. Chronic exposure to toluene can lead to neurological impairment which may be permanent. Exposure to certain polynuclear aromatic hydrocarbons ("PAHs") compounds suppresses immune responses in laboratory animals. Several PAHs are known potent carcinogens. Polychlorinated biphenyls ("PCBs") are stable, resilient compounds which bioaccumulate in wildlife and are known to cause cancer in laboratory animals.

17. The Site is situated in a mixed industrial, commercial and residential area in Gary, Indiana which is populated by several thousand residents. Wetlands and a wide variety of wildlife occupy the Site.

18. Hazardous contaminants have been and are being released, and threaten to be released, to the environment via migration of the contaminants through soil and groundwater, potential discharge of contaminated groundwater to surface water, and volatilization of the contaminants from soil and surface water into the air. These releases and threatened releases pose a direct contact and migratory exposure threat to the residents of Gary and to wildlife, and are present in the Gary ecosystem, and pose an imminent and substantial endangerment to the public health or welfare or the environment.

19. The major components of the ROD Amendment include:

- installation of an intermediate slurry wall, unless the U.S. Environmental Protection Agency determines that it is not feasible, that will separate the surface water area from the contaminated area (primary containment area);
- removal of debris and contaminated sediments from surface water bodies on the site that are to remain, and placement of this material under the cap;
- installation of a soil vapor extraction (SVE) system covering the portions of the primary containment area known to be contaminated (after necessary dewatering) and subsequent operation of the system to provide a performance that is appropriate and acceptable to U.S. EPA while maintaining the water level about 10 feet below the present surface;
- disposal of the oil extracted during implementation of the first operable unit in a manner which is appropriate and acceptable to U.S. EPA, most likely in an off-site incinerator;
- installation of a RCRA Subtitle C cap over the primary containment area, landscaping of the site, and establishment of a storm water management system which includes discharge of excess water and which is appropriate and acceptable to U.S. EPA;
- containment or extraction and disposal, by a means which is appropriate and acceptable to U.S. EPA, of contaminated groundwater or sources of groundwater contamination found outside the primary containment area;
- removing or securing any equipment which was used during implementation of the first operable unit that will not be used as part of this remedy;
- maintenance of an acceptable water level within the primary containment area and disposal of the excess water by a means which is appropriate and acceptable to U.S. EPA;
- deed and access restrictions that prohibit use of groundwater at the site and protect the remedy; and

- operation and maintenance of the remedy, including the fence and slurry wall installed in the first operable unit, and monitoring of the site to ensure protectiveness.

The ROD Amendment is incorporated by reference in its entirety into this Order.

20. Implementation of the components of the ROD Amendment, in accordance with CERCLA and the NCP, will result in the optimal remediation of the Site through permanent and significant reduction and containment of contamination present in the soil and groundwater at the Site, and thus ensure protectiveness of human health and the environment.

21. The Ninth Avenue Dump site (the "Site") is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

22. Each Respondent is a "person" as defined in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

23. Each Respondent is a liable party as defined in Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), and is subject to this Order under Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

24. "Hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14) are present at the Site.

25. These hazardous substances, have been, are being, and/or threaten to be "released" from the Facility as that term is defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

26. The past disposal and migration of hazardous substances at and from the Facility constitutes a "release". The potential for future migration of hazardous substances from the Site poses a threat of a "release" as defined in § 101(22) of CERCLA, 42 U.S.C. § 9601(22).

27. The release and/or threat of release of one or more hazardous substances from the Facility is or may be presenting an imminent and substantial endangerment to the public health or welfare or the environment.

28. The actions required by this Order are necessary to protect the public health, welfare, or the environment and are consistent with the National Contingency Plan, as amended, and CERCLA.

V. NOTICE TO THE STATE

29. U.S. EPA has notified the State of Indiana, Department of Environmental Management (or "IDEM"), that U.S. EPA intends to issue this Order. U.S. EPA will consult with the State and the State will have the opportunity to review and comment to U.S. EPA regarding all work to be performed, including remedial design, reports, technical data and other deliverables, and any other issues which arise while the Order remains in effect.

VI. ORDER

30. Based on the foregoing, each Respondent is hereby ordered to comply with all of the provisions of this Order, including but not limited to all attachments to this Order, all documents incorporated by reference into this Order, and all schedules and deadlines contained in this Order, attached to this Order, or incorporated by reference into this Order.

VII. WORK TO BE PERFORMED

31. Within five (5) days after the effective date of this Order, each Respondent that owns real property comprising any part of the Site shall record Notice of and/or a copy of this Order in the appropriate governmental office where land ownership and transfer records are filed or recorded, and shall ensure that the recording of said notice and/or Order is indexed to the title of each and every parcel of property owned by said Respondent at the Site, so as to provide notice to third parties of the issuance

and terms of this Order with respect to those properties. Respondents shall, within 15 days after the effective date of this Order, send notice of such recording and indexing to U.S. EPA.

32. All work plans, reports, engineering design documents, and other deliverables (work plans and deliverables), as described throughout this Order, shall be submitted to IDEM (except documents claimed to contain confidential business information) and U.S. EPA. All work plans and deliverables will be reviewed and either approved, approved with modifications, or disapproved by U.S. EPA, in consultation with IDEM. In the event of approval or approval with modifications by U.S. EPA, Respondents shall proceed to take any action required by the work plan, report, or other item, as approved or modified by U.S. EPA. If the work plan or other deliverable is approved with modifications or disapproved, U.S. EPA will provide, in writing, comments or modifications required for approval. Respondents shall amend the work plan or other deliverable to incorporate only those comments or modifications required by U.S. EPA. Within twenty-one (21) days of the date of U.S. EPA's written notification of approval with modifications or disapproval, Respondents shall submit an amended work plan or other deliverable. U.S. EPA shall review the amended work plan or deliverable and either approve or disapprove it. Failure to submit a work plan, amended work plan or other deliverable shall constitute noncompliance with this Order. Submission of an amended work plan or other deliverable which fails to incorporate all of U.S. EPA's required modifications, or which includes other unrequested modifications, shall also constitute noncompliance with this Order. Approval by U.S. EPA of the work plan, amended work plan or other deliverable shall cause said approved work plan, amended work plan or other deliverable to be incorporated herein as an enforceable part of this Order. If any work plan or other deliverable is not approved by

U.S. EPA, Respondents shall be deemed to be in violation of this Order.

33. In the event of an inconsistency between this Order and any subsequent approved work plan or other deliverable, the terms of this Order shall control.

34. Within sixty (60) days of the effective date of this Order, Respondents shall submit to U.S. EPA a Remedial Design/Remedial Action ("RD/RA") Work Plan that briefly describes what has already been done in performing the remedial design and remedial action in accordance with the ROD Amendment and the two previous RODs and the ESD and that shall include the plan for completing the remedial design and the remedial action for the remedy selected in the ROD Amendment and, to the extent relevant and not otherwise amended or superseded by the ROD Amendment, in the Explanation of Significant Differences dated October, 1991, the Record of Decision dated June 30, 1989, and the Record of Decision dated September 20, 1988, and for attaining and maintaining all requirements and performance standards identified in the ROD Amendment and Statement of Work and, to the extent relevant and not otherwise amended or superseded by the ROD Amendment, in the Explanation of Significant Differences dated October, 1991, the Record of Decision dated June 30, 1989, and the Record of Decision dated September 20, 1988.

35. The RD/RA Work Plan shall describe the tasks and deliverables Respondents will complete during the remedial design and the remedial action phases still remaining, will list the deliverables already submitted and approved for the remedial design and remedial action, and will include a schedule for completing the tasks and deliverables in the RD/RA Work Plan. The RD/RA Work Plan shall be consistent with, and provide for implementation of, the Statement of Work and shall comport with U.S. EPA's "Superfund Remedial Design and Remedial Action

Guidance", OSWER Directive 9355.0-04A, as well as all other relevant U.S. EPA guidance. The RD/RA Work Plan shall include a Sampling and Analysis Plan and a Quality Assurance Project Plan for U.S. EPA review; if appropriate, already approved Sampling and Analysis Plans and Quality Assurance Project Plans may be incorporated by reference, and if these cover all relevant work, additional plans are not required. Respondents shall also submit a Health and Safety Plan for all remedial design and remedial action tasks for U.S. EPA review or, if appropriate, reference Health and Safety Plans already reviewed and commented upon. The Health and Safety Plan for field activities shall conform to applicable Occupational Safety and Health Administration and U.S. EPA requirements, including but not limited to the regulations at 54 Fed. Reg. 9294. The RD/RA Work Plan shall cover all the tasks and submittals described in the SOW.

36. Upon the approval of the RD/RA Work Plan by U.S. EPA, Respondents shall implement the RD/RA Work Plan in accordance with any and all instructions from the Remedial Project Manager (RPM) and in accordance with the schedules in the RD/RA Work Plan. Unless otherwise directed by U.S. EPA, Respondents shall not commence remedial action at the Site prior to approval of the design for that remedial action. Any noncompliance with the approved RD/RA Work Plan shall be a violation of this Order.

37. The work performed by Respondents pursuant to this Order shall, at a minimum, achieve the performance standards specified in the ROD Amendment and the Statement of Work, and, to the extent relevant and not otherwise amended or superseded by the ROD Amendment, in the Explanation of Significant Differences dated October, 1991, the Record of Decision dated June 30, 1989, and the Record of Decision dated September 20, 1988. Nothing in this Order, or in U.S. EPA's approval of any work plan or other deliverable, shall be deemed to constitute a warranty or

representation of any kind by U.S. EPA that full performance of the remedial design or remedial action will achieve the performance standards set forth in the ROD Amendment and in the Statement of Work, and, to the extent relevant and not otherwise amended or superseded by the ROD Amendment, in the Explanation of Significant Differences dated October, 1991, the Record of Decision dated June 30, 1989, and the Record of Decision dated September 20, 1988. Respondents' compliance with such approved documents does not foreclose U.S. EPA from seeking additional work.

38. All materials removed from the Facility shall be disposed of or treated at a facility approved in advance of removal by U.S. EPA's RPM and in accordance with: (1) Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3); (2) the Resource Conservation and Recovery Act of 1976 (RCRA), 42 U.S.C. § 6901, et seq., as amended; (3) the U.S. EPA "Revised Off-Site Policy," OSWER Directive 9834.11, November 13, 1987; (4) all othe relevant guidance and policy directives; and (5) all other applicable federal, State, and local requirements. The identity of the receiving facility and state will be determined by Respondents following the award of the contract for disposal or treatment. Respondents shall provide written notice to the RPM which shall include all relevant information, including the information required by paragraph 39 below, as soon as practicable after the award of the contract and before the hazardous substances are actually shipped off the site.

39. Prior to any off-site shipment of hazardous substances from the Site to an out-of-state waste management facility, Respondents shall provide written notification to the appropriate state environmental official in the receiving state and to U.S. EPA's RPM of such shipment of hazardous substances. However, the notification of shipments to the state shall not apply to any off-Site shipments when the total volume of all shipments from

the Site to the state will not exceed ten (10) cubic yards. The notification shall be in writing, and shall include the following information, where available: (1) the name and location of the facility to which the hazardous substances are to be shipped; (2) the type and quantity of the hazardous substances to be shipped; (3) the expected schedule for the shipment of the hazardous substances; and (4) the method of transportation. Respondents shall notify the receiving state of major changes in the shipment plan, such as a decision to ship the hazardous substances to another facility within the same state, or to a facility in another state.

40. Respondents shall cooperate with U.S. EPA in providing information regarding the work to the public. When requested by U.S. EPA, Respondents shall participate in the preparation of such information for distribution to the public and in public meetings which may be held or sponsored by U.S. EPA to explain activities at or relating to the Site.

41. Within thirty (30) days after Respondents conclude that the remedial action has been fully performed, Respondents shall so notify U.S. EPA and shall schedule and conduct a pre-certification inspection to be attended by Respondents and U.S. EPA. The pre-certification inspection shall be followed by a written report submitted within thirty (30) days of the inspection by a registered professional engineer and Respondents' Project Coordinator certifying that the remedial action has been completed in full satisfaction of the requirements of this Order. If, after completion of the pre-certification inspection and receipt and review of the written report, U.S. EPA determines that the remedial action or any portion thereof has not been completed in accordance with this Order, U.S. EPA shall notify Respondents in writing of the activities that must be undertaken to complete the remedial action and shall set forth in the notice a schedule for performance of such activities. Respondents shall

perform all activities described in the notice in accordance with the specifications and schedules established therein. If U.S. EPA concludes, following the initial or any subsequent certification of completion by Respondents that the remedial action has been fully performed in accordance with this Order, U.S. EPA may notify Respondents that the remedial action has been fully performed. U.S. EPA's notification shall be based on present knowledge and Respondent's certification to U.S. EPA, and shall not limit U.S. EPA's right to perform periodic reviews pursuant to Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), or to take or require any action that in the judgment of U.S. EPA is appropriate at the Site, in accordance with 42 U.S.C. §§ 9604, 9606, or 9607.

VIII. PERIODIC REVIEW

42. Under Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), and any applicable regulations, where hazardous substances will remain on Site at the completion of the remedial action, U.S. EPA may review the Site to assure that the work performed pursuant to this Order adequately protects human health and the environment. Until such time as U.S. EPA certifies completion of the work, Respondents shall conduct the requisite studies, investigations, or other response actions as determined necessary by U.S. EPA in order to permit U.S. EPA to conduct the review under Section 121(c) of CERCLA. As a result of any review performed under this paragraph, Respondents may be required to perform additional work or to modify work previously performed.

IX. ADDITIONAL RESPONSE ACTIONS

43. In the event that U.S. EPA determines that additional work or modifications to work are necessary to meet performance standards, to maintain consistency with the final remedy, or to otherwise protect human health or the environment, U.S. EPA will notify Respondents that additional response actions are necessary. U.S. EPA may also require Respondents to modify any

plan, design, or other deliverable required by this Order, including any approved modifications.

44. Within thirty (30) days of receipt of notice from U.S. EPA that additional response activities are necessary, Respondents shall submit for approval an Additional RD/RA Work Plan pursuant to paragraph 32 herein. The Additional RD/RA Work Plan shall conform to this Order's requirements for RD/RA Work Plans. Upon U.S. EPA's approval of the Additional RD/RA Work Plan, the Additional RD/RA Work Plan shall become an enforceable part of this Order, and Respondents shall implement the Additional RD/RA Work Plan for additional response activities in accordance with the standards, specifications, and schedule contained therein. Failure to submit an Additional RD/RA Work Plan shall constitute noncompliance with this Order.

X. ENDANGERMENT AND EMERGENCY RESPONSE

45. In the event of any event during the performance of the work which causes or threatens to cause a release of a hazardous substance or which may present an immediate threat to public health or welfare or the environment, Respondents shall immediately take all appropriate action to prevent, abate, or minimize the threat, and shall immediately notify U.S. EPA's RPM or alternate RPM. If neither of these persons is available Respondents shall notify the U.S. EPA Emergency Response Unit, Region V. Respondents shall take further action in consultation with U.S. EPA's RPM and in accordance with all applicable provisions of this Order, including but not limited to the health and safety plan and the contingency plan. In the event that Respondents fail to take appropriate response action as required by this paragraph, and U.S. EPA takes that action instead, Respondents shall reimburse U.S. EPA for all costs of the response action not inconsistent with the NCP. Respondents shall pay the response costs in the manner described in section XIX

(reimbursement of response costs) of this Order, within thirty (30) days of U.S. EPA's demand for payment.

46. Nothing in the preceding paragraph 45 shall be deemed to limit any authority of the United States to take, direct, or order all appropriate action to protect human health and the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances on, at, or from the Site.

XI. PROGRESS REPORTS

47. In addition to the other deliverables set forth in this Order, Respondents shall provide monthly progress reports to U.S. EPA and IDEM with respect to actions and activities undertaken pursuant to this Order. The progress reports shall be submitted on or before the 20th day of each month following the effective date of this Order. Respondents' obligation to submit progress reports continues until U.S. EPA gives Respondents written notice under paragraph 83 of this Order. At a minimum these progress reports shall: (1) describe the actions which have been taken to comply with this Order during the prior month; (2) include all results of sampling and tests and all other data received by Respondents and not previously submitted to U.S. EPA; (3) describe all work planned for the next 90-days with schedules relating such work to the overall project schedule for RD/RA completion; and (4) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

XII. QUALITY ASSURANCE, SAMPLING AND DATA ANALYSIS

48. Respondents shall use the quality assurance, quality control, and chain of custody procedures described in the "U.S. EPA NEIC Policies and Procedures Manual," May 1978, revised May 1986, U.S. EPA-330/9-78-001-R; U.S. EPA's "Guidelines and

Specifications for Preparing Quality Assurance Program Documentation," June 1, 1987; U.S. EPA's "Data Quality Objective Guidance," (U.S. EPA/540/G87/003 and 004); other relevant U.S. EPA guidance; and any amendments to these documents, while conducting all sample collection and analysis activities required herein by any plan. To provide quality assurance and maintain quality control, Respondents shall:

a. Prior to the commencement of any sampling and analysis under this Order, Respondents shall submit a Quality Assurance Project Plan (QAPP) to the U.S. EPA and IDEM that is consistent with the SOW, work plans, U.S. EPA's "Interim Guidelines and Specifications For Preparing Quality Assurance Project Plans" (QAM-005/80), and any subsequent amendments for any sampling and analysis not covered by a previously approved QAPP.

b. Prior to the development and submittal of a QAPP, Respondents shall attend a pre-QAPP meeting sponsored by U.S. EPA to identify all monitoring and data quality objectives. U.S. EPA, after review of the submitted QAPP, will either approve, conditionally approve, or disapprove the QAPP. Upon notification of conditional approval or disapproval, Respondents shall make all required modifications to the QAPP within twenty-one (21) days of receipt of such notification.

c. Use only laboratories which have a documented Quality Assurance Program that complies with U.S. EPA guidance document QAMS-005/80 and subsequent amendments.

d. Ensure that the laboratory used by the Respondents for analyses performs according to a method or methods deemed satisfactory to U.S. EPA and submits all protocols to be used for analyses to U.S. EPA at least 30 days before beginning analysis unless U.S. EPA determines that such submittal is not necessary.

e. Ensure that U.S. EPA personnel and U.S. EPA's authorized representatives are allowed access to the laboratory and personnel utilized by the Respondents for analyses.

49. Respondents shall notify U.S. EPA and IDEM not less than fourteen (14) days in advance of any sample collection activity. At the request of U.S. EPA, Respondents shall allow U.S. EPA or its authorized representatives to take split or duplicate samples of any samples collected by Respondents with regard to the Site or pursuant to the implementation of this Order. In addition, U.S. EPA shall have the right to take any additional samples that U.S. EPA deems necessary.

XIII. COMPLIANCE WITH APPLICABLE LAWS

50. All activities by Respondents pursuant to this Order shall be performed in accordance with the requirements of all federal and State laws and regulations. U.S. EPA has determined that the activities contemplated by this Order are consistent with the National Contingency Plan.

51. Except as provided in Section 121(e) of CERCLA and the NCP, no permit shall be required for any portion of the work conducted entirely on-Site. Where any portion of the work requires a federal or State permit, Respondents shall submit timely applications and take all other actions necessary to obtain and to comply with all such permits or approvals.

52. This Order is not and shall not be construed to be, a permit issued pursuant to any federal or State statute or regulation.

XIV. REMEDIAL PROJECT MANAGER

53. All communications, whether written or oral, from Respondents to U.S. EPA shall be directed to U.S. EPA's Remedial Project Manager (or "RPM"). Respondents shall submit to U.S. EPA up to ten (10) copies of all documents, including plans, reports, and other correspondence, which are developed pursuant to this Order, and shall send these documents by certified mail, return receipt requested, overnight mail or as otherwise agreed to by U.S. EPA; the actual number of copies and their distribution

will be decided by U.S. EPA. U.S. EPA's Remedial Project Manager is: Bernard Schorle, U.S. Environmental Protection Agency, 77 W. Jackson Boulevard (HSRL-6J), Chicago, IL 60604, phone (312) 886-4746. The IDEM contact person is: Robert Schaible, Indiana Department of Environmental Management, P.O. Box 6015, Indianapolis, IN 46206-6015, phone (317) 233-6426.

54. U.S. EPA may change its Remedial Project Manager or Alternate Remedial Project Manager, if one is named at a later date. If U.S. EPA changes its Remedial Project Manager or Alternate Remedial Project Manager, U.S. EPA will inform Respondents in writing of the name, address, and telephone number of the new Remedial Project Manager or Alternate Remedial Project Manager.

55. U.S. EPA's RPM and Alternate RPM shall have the authority lawfully vested in a Remedial Project Manager (RPM) and On-Scene Coordinator (OSC) by the National Contingency Plan. U.S. EPA's RPM or Alternate RPM shall have authority, consistent with the NCP, to halt any work required by this Order, and to take any necessary response action.

XV. PROJECT COORDINATOR AND CONTRACTORS

56. All aspects of the Work to be performed by Respondents pursuant to this Order shall be under the direction and supervision of a Project Coordinator qualified to undertake and complete the requirements of this Order. The Project Coordinator shall be the RPM's primary point of contact with the Respondents and shall possess sufficient technical expertise regarding all aspects of the work. Within fifteen (15) days after the effective date of this Order, Respondents shall notify U.S. EPA in writing of the name and qualifications of the Project Coordinator, including primary support entities and staff, proposed to be used in carrying out work under this Order. U.S.

EPA reserves the right to disapprove the proposed Project Coordinator.

57. Within thirty (30) days (or within such other time period agreed to by U.S. EPA) after U.S. EPA approves the design for a design component, Respondents shall identify the proposed construction contractor for the work of the approved design and notify U.S. EPA in writing of the name, title, and qualifications of the construction contractor proposed to be used in carrying out work under this Order.

58. Respondents shall submit a copy of the construction contractor solicitation documents to U.S. EPA not later than five (5) days after publishing or otherwise mailing the solicitation documents. Upon U.S. EPA's request, Respondents shall submit complete copies of all bid packages received from all contract bidders.

59. At least seven (7) days prior to commencing any work at the Site pursuant to this Order, Respondents shall submit to U.S. EPA a certification that Respondents or their contractors and subcontractors have adequate insurance coverage or have indemnification for liabilities for injuries or damages to persons or property which may result from the activities to be conducted by or on behalf of Respondents pursuant to this Order. Respondents shall ensure that such insurance or indemnification is maintained for the duration of the work required by this Order.

60. U.S. EPA retains the right to disapprove of the Project Coordinator and any contractor, including but not limited to remedial design contractors and construction contractors retained by the Respondents. In the event U.S. EPA disapproves a Project Coordinator or contractor, Respondents shall retain a new project coordinator or contractor to perform the work, and such selection

shall be made within fifteen (15) days following the date of U.S. EPA's disapproval. If at any time Respondents propose to use a new project coordinator or contractor, Respondents shall notify U.S. EPA of the identity of the new project coordinator or contractor at least fifteen (15) days before the new project coordinator or contractor performs any work under this Order.

XVI. SITE ACCESS AND DOCUMENT AVAILABILITY

61. In the event that the Site, the off-Site area that is to be used for access, property where documents required to be prepared or maintained by this Order are located, or other property subject to or affected by this response action, is owned in whole or in part by parties other than those bound by this Order, Respondents will obtain, or use their best efforts to obtain, site access agreements from the present owners, within sixty (60) days of the effective date of this Order. Said agreements shall provide access for U.S. EPA, its contractors and oversight officials, the State and its contractors, and Respondents or Respondents authorized representatives and contractors. Said agreements shall specify that Respondents are not U.S. EPA's representative with respect to liability associated with Site activities. Copies of such agreements shall be provided to U.S. EPA. Respondent's best efforts shall include providing reasonable compensation to any off-Site property owner. If access agreements are not obtained within the time referenced above, Respondents shall immediately notify U.S. EPA of its failure to obtain access.

62. If Respondents cannot obtain the necessary access agreements, U.S. EPA may exercise non-reviewable discretion and (1) use its legal authorities to obtain access for the Respondents; (2) conduct response actions at the property in question; or (3) terminate this Order. If U.S. EPA conducts a response action and does not terminate the Order, Respondents shall perform all other activities not requiring access to that

property. Respondents shall integrate the results of any such tasks undertaken by U.S. EPA into its reports and deliverables. Respondents shall reimburse U.S. EPA, pursuant to section XIX (reimbursement of response costs) of this Order, for all response costs (including attorney fees) incurred by the United States to obtain access for Respondents.

63. Respondents shall allow U.S. EPA and its authorized representatives and contractors to enter and freely move about all property at the Site and off-site areas subject to or affected by the work under this Order or where documents required to be prepared or maintained by this Order are located, for the purposes of inspecting conditions, activities, the results of activities, records, operating logs, and contracts related to the Site or Respondents and its representatives or contractors pursuant to this Order; reviewing the progress of the Respondents in carrying out the terms of this Order; conducting tests as U.S. EPA or its authorized representatives or contractors deem necessary; using a camera, sound recording device or other documentary type equipment; and verifying the data submitted to U.S. EPA by Respondents. Respondents shall allow U.S. EPA and its authorized representatives to enter the Site, to inspect and copy all records, files, photographs, documents, sampling and monitoring data, and other writings related to work undertaken in carrying out this Order. Nothing herein shall limit U.S. EPA's right of entry or inspection authority under federal law, and U.S. EPA retains all of its information gathering and enforcement authorities and rights under CERCLA, RCRA, and any other applicable statutes and regulations.

XVII. RECORD PRESERVATION

64. On or before the effective date of this Order, Respondents shall submit a written certification to U.S. EPA that they have not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information relating

to their potential liability with regard to the Site since the time of their notification of potential liability by U.S. EPA or the State. Respondents shall not dispose of any such documents without prior approval by U.S. EPA. Upon U.S. EPA's request, Respondents shall make all such documents available to U.S. EPA and shall submit a log of any such documents claimed to be privileged for any reason. This privilege log shall list, for each document, the date, author, addressees (including courtesy copies or "cc"s and "bcc"s) and subject matter of the document.

65. Respondents shall provide to U.S. EPA, upon request, copies of all documents and information within their or their contractors, subcontractors or agents possession or control relating to activities at the Site or to the implementation of this Order, including but not limited to sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, traffic routing, correspondence, or other documents or information. Respondents shall also make available to U.S. EPA their employees, agents, or representatives for purposes of investigation, information gathering or testimony concerning the performance of the work.

66. Until ten (10) years after U.S. EPA provides notice pursuant to paragraph 83 of this Order, Respondents shall preserve, and shall instruct their contractors and agents to preserve, all documents, records, and information of whatever kind, nature or description relating to the performance of the work. Upon the conclusion of this document retention period, Respondents shall notify the United States at least ninety (90) days prior to the destruction of any such records, documents or information, and, upon request of the United States, Respondents shall deliver all such documents, records and information to U.S. EPA.

67. Respondents may assert a claim of business confidentiality covering part or all of the information submitted to U.S. EPA

pursuant to the terms of this Order under 40 C.F.R. § 2.203, provided such claim is not inconsistent with § 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7) or other provisions of law. This claim shall be asserted in the manner described by 40 C.F.R. § 2.203(b) and substantiated by Respondents at the time the claim is made. Information determined to be confidential by U.S. EPA will be given the protection specified in 40 C.F.R. Part 2. If no such claim accompanies the information when it is submitted to U.S. EPA, it may be made available to the public by U.S. EPA or the State without further notice to the Respondents. Respondents shall not assert confidentiality claims with respect to any data or documents related to Site conditions, sampling, or monitoring.

68. Respondents shall maintain, for the period during which this Order is in effect, an index of documents that Respondents claim contain confidential business information ("CBI"). The index shall contain, for each document, the date, author, addressee, and subject of the document. Respondents shall submit an updated copy of the index to U.S. EPA with each new documents claimed to be CBI. The updated index shall also indicate any documents for which CBI claims have been withdrawn.

XVIII. DELAY IN PERFORMANCE

69. Any delay in performance of this Order according to its terms and schedules that is not properly justified by Respondents under the terms of this section shall be considered a violation of this Order. Any delay in performance of this Order shall not affect Respondents obligations to fully perform all obligations under the terms and conditions of this Order.

70. Respondents shall notify U.S. EPA of any delay or anticipated delay in performing any requirement of this Order. Such notification shall be made by telephone to U.S. EPA's RPM or Alternate RPM within forty eight (48) hours after Respondents

first knew or should have known that a delay might occur. Respondents shall adopt all reasonable measures to avoid or minimize any such delay. Within seven (7) days after notifying U.S. EPA by telephone, Respondents shall provide written notification fully describing the nature of the delay, any justification for delay, any reason why Respondents should not be held strictly accountable for failing to comply with any relevant requirements of this Order, the measures planned and taken to minimize the delay, and a schedule for implementing the measures that will be taken to mitigate the effect of the delay. Increased costs or expenses associated with implementation of the activities called for in this Order is not a justification for any delay in performance.

XIX. REIMBURSEMENT OF RESPONSE COSTS

71. Respondents shall reimburse U.S. EPA, upon written demand, for all response costs incurred by the United States in overseeing Respondent's implementation of the requirements of this Order. U.S. EPA may submit to Respondents on a periodic basis an accounting of all oversight response costs incurred by the United States with respect to this Order. U.S. EPA's Itemized Cost Summary Reports, or such other summary as may be certified by U.S. EPA, shall serve as the accounting and basis for payment demands.

72. Respondents shall, within thirty (30) days of receipt of each U.S. EPA accounting, remit a certified or cashier's check for the amount of those costs. Interest shall accrue from the later of the date that payment of a specified amount is demanded in writing or the date of the expenditure. The interest rate is the rate established by the Department of the Treasury pursuant to 31 U.S.C. § 3717 and 4 C.F.R. § 102.13.

73. Checks shall be made payable to the "U.S. EPA Hazardous Substances Superfund" and shall include the name of the Site

("Ninth Avenue Dump site"), the Site identification number ("D2"), the docket number and the title of this Order. Checks shall be forwarded to:

U.S. Environmental Protection Agency
Superfund Accounting
P.O. Box 70753
Chicago, Illinois 60673

Respondents shall send copies of each transmittal letter and check to the U.S. EPA's RPM.

XX. UNITED STATES NOT LIABLE

74. The United States and U.S. EPA are not to be construed as parties to, and do not assume any liability for, any contract entered into by the Respondents to carry out the activities pursuant to this Order. The proper completion of the work under this Order is solely the responsibility of the Respondents. The United States and U.S. EPA, by issuance of this Order, also assume no liability for any injuries or damages to persons or property resulting from acts or omissions by Respondents, or (their) directors, officers, employees, agents, representatives, successors, assigns, contractors, or consultants in carrying out any action or activity required by this Order.

XXI. ENFORCEMENT AND RESERVATIONS

75. U.S. EPA reserves the right to bring an action against Respondents under § 107 of CERCLA, 42 U.S.C. § 9607, for recovery of any response costs incurred by the United States related to this Order and not reimbursed by Respondents. This reservation shall include but not be limited to past costs, direct costs, indirect costs, the costs of oversight, the costs of compiling the cost documentation to support oversight cost demand, as well as accrued interest as provided in Section 107(a) of CERCLA.

76. Notwithstanding any other provision of this Order, at any time during the response action, U.S. EPA may perform its own

studies, complete the response action (or any portion of the response action) as provided in CERCLA and the NCP, and seek reimbursement from Respondents for its costs, or seek any other appropriate relief.

77. Nothing in this Order shall preclude U.S. EPA from taking any additional enforcement actions, including modification of this Order or issuance of additional Orders, and/or additional remedial or removal actions as U.S. EPA may deem necessary, or from requiring Respondents in the future to perform additional activities pursuant to CERCLA, 42 U.S.C. § 9606(a), et seq., or any other applicable law. This Order shall not affect any Respondent's liability under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), for the costs of any such additional actions.

78. Notwithstanding any provision of this Order, the United States hereby retains all of its information gathering, inspection and enforcement authorities and rights under CERCLA, RCRA and any other applicable statutes or regulations.

79. Nothing in this Order shall constitute or be construed as a release from any claim, cause of action or demand in law or equity against any person for any liability it may have arising out of or relating in any way to the Site.

80. If a court issues an order that invalidates any provision of this Order or finds that Respondents have sufficient cause not to comply with one or more provisions of this Order, Respondents shall remain bound to comply with all provisions of this Order not invalidated by the court's order.

XXII. ACCESS TO ADMINISTRATIVE RECORD

81. The Section 106 Administrative Record is available for review on normal business days between the hours of 9:00 a.m. and 5:00 p.m. at the U.S. EPA, Region V, 77 West Jackson Boulevard

Chicago, Illinois. An Index of the Administrative Record is attached hereto as Attachment 3.

XXIII. EFFECTIVE DATE AND TERMINATION

82. This Order shall become effective thirty (30) days after the date of issuance.

83. Within thirty (30) days after Respondents conclude that all phases of the work have been fully performed, that the performance standards have been attained, and that all operation and maintenance activities have been completed, Respondents shall submit to U.S. EPA a written report by a registered professional engineer certifying that the work has been completed in full satisfaction of the requirements of this Order. U.S. EPA shall require such additional activities as may be necessary to complete the work or U.S. EPA may, based upon present knowledge and Respondents' certification to U.S. EPA, issue written notification to Respondents that the work has been completed, as appropriate, in accordance with the procedures set forth in paragraph 41 for Respondents' certification of completion of the remedial action. U.S. EPA's notification shall not limit U.S. EPA's right to perform periodic reviews pursuant to Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), or to take or require any action that in the judgment of U.S. EPA is appropriate at the Site, in accordance with 42 U.S.C. §§ 9604, 9606, or 9607. The provisions of this Order shall be deemed to be satisfied when U.S. EPA notifies Respondents in writing that Respondents have demonstrated, to U.S. EPA's satisfaction, that all terms of the Order have been completed. This notice shall not, however, terminate Respondents obligation to comply with section XVII of this Order (record preservation).

XXIV. NOTICE OF INTENT TO COMPLY

84. On or before the effective date of this Order, each Respondent must submit to U.S. EPA (to the attention of Bernard

Schorle, U.S. Environmental Protection Agency, 77 W. Jackson Boulevard (HSRL-6J), Chicago, IL 60604, phone (312) 886-4746) a written notice stating its unequivocal intention to comply with all terms of this Order, together with the written notice required by paragraph 64. In the event any Respondent fails to provide said written notice of its unequivocal intention to comply with this Order on or before the effective date, said Respondent shall be deemed to have refused to comply with this Order. A Respondent which fails to provide timely notice of its intent to comply with this Order shall thereafter have no authority to perform any response action at the Site, pursuant to Sections 104(a) and 122(e)(6) of CERCLA. In the event such a Respondent subsequently changes its decision and desires to acquire authority from U.S. EPA under Sections 104(a) and 122(e)(6) of CERCLA to undertake the work described in this Order, said Respondent must provide the notice described in this paragraph 84 to U.S. EPA and receive from U.S. EPA written permission and authority to proceed with work under this Order.

XXV. PENALTIES

85. Each Respondent shall be subject to civil penalties under Section 106(b) of CERCLA, 42 U.S.C. § 9606(b), of not more than $25,000 for each day in which said Respondent violates, or fails or refuses to comply with this Order without sufficient cause. In addition, failure to properly provide response action under this Order, or any portion hereof, may result in liability under Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3), for punitive damages in an amount at least equal to, and not more than three times the amount of any costs incurred by the Fund as a result of such failure to take proper action.

XXVI. OPPORTUNITY TO COMMENT AND CONFER

86. On or before the effective date of this Order, each Respondent may submit written comments to U.S. EPA. Respondents asserting a "sufficient cause" defense under Section 106(b) of

CERCLA shall describe the nature of any "sufficient cause" defense using facts that exist on or prior to the effective date of this Order. The absence of a response by U.S. EPA shall not be deemed to be acceptance of Respondent's assertions.

87. Within ten (10) days after the date of issuance of this Order, Respondents may request a conference with the U.S. EPA to discuss this Order or U.S. EPA may schedule a conference. If requested, the conference shall occur within 20 (twenty) days of the date of issuance of this Order, at the office of U.S. EPA, Region 5, in Chicago, Illinois.

88. The purpose and scope of the conference shall be limited to issues involving the implementation of the response actions required by this Order and the extent to which Respondents intend to comply with this Order. This conference is not an evidentiary hearing and does not constitute a proceeding to challenge this Order. It does not give Respondents a right to seek review of this Order or to seek resolution of potential liability. No record of the conference (e.g. stenographic, tape or other physical record) will be made. At any conference held pursuant to Respondent's request, Respondents may appear in person or by an attorney or other representative. Requests for a conference must be by telephone followed by written confirmation to U.S. EPA's RPM.

So Ordered, this 27th day of October, 1994.

BY: _____
William E. Muno, Director
Waste Management Division
U.S. Environmental Protection Agency, Region V

ATTACHMENT 1

ATTACHMENT 1

NINTH AVENUE DUMP SITE
POTENTIALLY RESPONSIBLE PARTIES
UNILATERAL ADMINISTRATIVE ORDER RESPONDENTS

American Nameplate
c/o Ecodyne Corporation
(Indemnitor for American Nameplate)
225 West Washington Street
Chicago, IL 60606

American National Can
c/o Joseph V. Karaganis, Esq.
Karaganis & White Ltd.
414 North Orleans Street
Suite 810
Chicago, IL 60610

American Printers & Lithographers, Inc.
c/o Leon S. Jaffe, President
6701 Oakton
Chicago, IL 60648

Anderson Manufacturing
(Anderson Manufacturing and Engineering Co.)
c/o Eugene Anderson, President
4 N. 463 Babson Lane
St. Charles, IL 60175

The Lori Corporation
c/o Apeco Corporation
Austin Iodice, President
500 Central Ave.
Northfield, IL 60093

Ashland Chemical Company
(a subsidiary of
Ashland Oil Company)
c/o Anne M. Beckert, Esq.
Ross & Hardies
150 North Michigan Avenue
Chicago, IL 60601-7567

Bagcraft Corporation of America, Inc.
c/o Mark Santacrose, President
3900 W. 43rd Street
Chicago, IL 60632

Barber-Green Company
(A Division of Caterpillar)
c/o Mr. Duffy, General Manager
12101 Barber Green Road
DeKalb, IL 60155

Barker Chemical--The Barker Company
c/o Wayne Barker
600 W. 41st Street
Chicago, IL 60609

Belmont Plating Works, Inc.
c/o John E. Toni, President
9145 West King Street
Franklin Park, IL 60131

Blaw Knox Corp
c/o Dean G. Wilson, President
One Oliver Plaza
Pittsburgh, PA 15222

Boltmaster Corporation
c/o Frank M. Paris, President
9375 Chestnut Street
Franklin Park, IL 60131

Bretford Manufacturing, Inc.
c/o Edward A. Petrick, President
700 North Linden
Oak Park, IL 60302

Brightly Galvanized Products
c/o Charles F. Brightly, President
3330 South Cicero Avenue
Cicero, IL 60650

Cargill, Inc.
c/o Gary Gengel, Esq.
Popham & Haik
3300 Piper Jaffrey Tower
222 South 9th Street
Minneapolis, MN 55402

Chamberlain Manufacturing, Inc
(Collis, Inc.)
c/o Michael F. Dolan, Esq.
Jones, Day, Reavis & Pogue
77 West Wacker Drive
Chicago, IL 60601

Chicago & Northwestern Transportation Co.
c/o Robert W. Schmiege, President
165 North Canal
Chicago, IL 60606

Chicago Sheepskin Co.

Chicago Steel & Wire
Valhi
c/o Andrew R. Running, Esq.
Kirkland & Ellis
200 East Randolph Drive
Chicago, IL 60601

Chrome Rite Company
c/o Guinevere Crawford, Registered Agent
4949 W. Arthington Street
Chicago, IL 60604

Clark Oil & Refining Corp.
c/o Paul D. Melnuk, President
8182 Maryland Ave.
Clayton, MO 63105

Colwell/General, Inc.
c/o Alexander Pursley, President
200 South Sixth Street
Fort Wayne, IN 46815

Commander Packaging
c/o Robert D. Cleveland, President
5555 West 73rd Street
Chicago, IL 60638

Continental Can Company
c/o John Scales, President
Continental White Cap Corporation
1130 31st Street
Downers Grove, IL 60515

Croname Co.
c/o Katten, Muchin & Zavis
525 W. Monroe Street, Suite 1600
Chicago, IL 60661

Crown Cork & Seal Co., Inc.
c/o Robert P. Harris, Esq.
Harold A. Harris, Ltd.
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DECLARATION FOR THE RECORD OF DECISION AMENDMENT

SITE NAME AND LOCATION

Ninth Avenue Dump
Gary, Indiana

STATEMENT OF BASIS AND PURPOSE

This decision document, together with Records of Decision dated June 30, 1989 and September 20, 1988 and an Explanation of Significant Differences dated October 1991, present the selected remedial action for the Ninth Avenue Dump site developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended by the Superfund Amendments and Reauthorization Act of 1986 (CERCLA), and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan.

This decision is based on the contents of the administrative record for the Ninth Avenue Dump site. The attached index identifies the items that comprise the administrative record upon which the decision to amend the 1989 Record of Decision and the selection of the modified remedial action are based.

The State of Indiana has concurred with this decision.

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Record of Decision Amendment, may present an imminent and substantial endangerment to public health, welfare, or the environment.

DESCRIPTION OF THE REMEDY

The remedial action for the site consists of two operable units. The first operable unit addressed an oil layer floating on the groundwater by means of oil and groundwater extraction, oil storage, reintroduction of the groundwater, containment with a slurry wall, and management of excess surface water. The extracted groundwater was treated prior to reintroduction. The second operable unit, which is being amended by this decision document, addresses the remaining threats at the site.

The major components of the selected remedy for the second operable unit include:

- installation of an intermediate slurry wall, unless the U.S. Environmental Protection Agency determines that it is not feasible, that will separate the surface water area from the contaminated area (primary containment area);
- removal of debris and contaminated sediments from surface water bodies on the site that are to remain, and placement of this material under the cap;

- installation of a soil vapor extraction (SVE) system covering the portions of the primary containment area known to be contaminated (after necessary dewatering) and subsequent operation of the system to provide a performance that is appropriate and acceptable to USEPA while maintaining the water level about 10 feet below the present surface;
- disposal of the oil extracted during implementation of the first operable unit in a manner which is appropriate and acceptable to USEPA, most likely in an off-site incinerator;
- installation of a RCRA Subtitle C cap over the primary containment area, landscaping of the site, and establishment of a storm water management system which includes discharge of excess water and which is appropriate and acceptable to USEPA;
- containment or extraction and disposal, by a means which is appropriate and acceptable to USEPA, of contaminated groundwater or source(s) of groundwater contamination found outside the primary containment area;
- removing or securing any equipment which was used during implementation of the first operable unit that will not be used as part of this remedy;
- maintenance of an acceptable water level within the primary containment area and disposal of the excess water by a means which is appropriate and acceptable to USEPA;
- deed and access restrictions that prohibit use of groundwater at the site and protect the remedy; and
- operation and maintenance of the remedy, including the fence and slurry wall installed in the first operable unit, and monitoring of the site to ensure protectiveness.

STATUTORY DETERMINATIONS

The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective. The remedy utilizes permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable and satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principal element.

Because this remedy will result in hazardous substances remaining on-site above health-based levels, a review will be conducted within five years after commencement of remedial action and every five years thereafter to ensure that the remedy continues to provide adequate protection of human health and the environment.

9/13/94
Date

Valdas V. Adamkus
Regional Administrator
Region V

RECORD OF DECISION AMENDMENT SUMMARY
NINTH AVENUE DUMP SITE

I. Introduction and Site Description

The purpose of this Record of Decision Amendment is to present a change for the final site remedy (FSR) (second operable unit) for the Ninth Avenue Dump site. The original final site remedy was described in a Record of Decision (FSR ROD) issued on June 30, 1989. Previously, a Record of Decision (ROD) had been issued on September 20, 1988 for the interim site remedy (ISR) (first operable unit). An Explanation of Significant Differences (ESD) was issued in October 1991 that modified the 1988 ROD (ISR ROD).

The Ninth Avenue Dump site is an inactive chemical and industrial waste disposal site and is located at 7537 Ninth Avenue in Gary, Indiana. It occupies approximately seventeen acres and is situated in an area of mixed industrial, commercial, and residential use approximately 1/8 mile east of Cline Avenue. The nearest residential area begins on the west side of Cline Avenue. The site is approximately 1 1/4 miles south of the Grand Calumet River and 1 3/4 miles north of the Little Calumet River.

The site is located in a low-lying area with poor drainage. Prior to filling, the site consisted of parallel ridges separated by wetland areas. Currently, the site is relatively flat with small depressions and mounds remaining from waste disposal or cleanup activities. A slurry wall surrounds the area of the site that contained groundwater contamination which was known or suspected, at the time of the construction of the wall, to exceed acceptable concentrations. The wall is keyed about 3 feet into a clay aquitard formation that begins approximately 30 feet below the ground surface. Situated within the slurry wall, in the southern part and extending up the west side, is a pond and wetland area. A fence has been installed around the site, which now includes portions of adjacent properties (see Figure 1).

The interim site remedy, described in the 1988 ISR ROD, was to include:

- construction of a soil/bentonite slurry wall to surround an oil layer floating on the groundwater;
- installation and operation of an oil/groundwater extraction and groundwater recharge system;
- installation and operation of a small scale on-site groundwater treatment system to treat excess water due to rainfall inside the slurry wall;
- groundwater monitoring; and
- storage of the extracted oil on-site until implementation of the final remedy.

The final site remedy, described in the 1989 FSR ROD, was to include:

- excavation of oil-contaminated waste and fill down to the native sand (estimated to involve about 36,000 yd^3);
- thermal treatment of the excavated waste and fill and the extracted oil, most likely in a mobile on-site incinerator;

- removal of debris and contaminated sediments from on- and off-site surface water bodies;
- filling the excavated area with treatment process residuals, trench spoils, and pond sediments and debris;
- covering the area within the slurry wall with a hazardous waste landfill cap;
- extracting, treating, and reinjecting contaminated groundwater inside the slurry wall to promote soil flushing;
- discharge of a small quantity of treated groundwater outside the slurry wall to compensate for infiltration; and
- long-term groundwater monitoring.

The 1991 ESD described the following changes that were to be made in the interim site remedy and the components of the final site remedy that were to be implemented as part of the interim site remedy:

- expanding the area enclosed by the slurry wall, if possible, to include all groundwater that contained contamination that was known to exceed target cleanup levels, which are defined in the 1989 FSR ROD (this expansion was also mentioned in the 1989 FSR ROD);
- discharging excess water from the site to the Grand Calumet River in accordance with National Pollutant Discharge Elimination System (NPDES) permit limits;
- only temporarily storing extracted oil and then shipping it to an acceptable off-site incinerator for disposal; and
- performing a portion of the FSR early by treating the extracted groundwater prior to its reinjection inside the slurry wall.

In the 1988 ISR ROD, the estimated present net worth for the selected interim site remedy was given as $2,430,000. This included $1,960,000 for capital costs and $190,000 for annual operation and maintenance (O & M) costs. In the 1989 FSR ROD, the estimated present net worth for the selected FSR was given as $22,209,000. This included $18,048,000 for capital costs and $489,000 for annual O & M costs. The 1991 ESD stated that the additional work required by the changes in the interim site remedy had significantly increased the costs, but some of the increase was due to the combination of some parts of the final site remedy with the interim site remedy. The costs for the interim remedy were estimated in the ESD to be $11,910,000 for capital costs and $16,510,000 for the present net worth.

II. Site History and Pre-ROD Investigations

The 1989 FSR ROD sets forth the history of the site through the date that the FSR ROD was issued and should be consulted for further details. The site had been used for the disposal of hazardous wastes from the early to mid 1970s. The remedial investigation (RI) and feasibility study (FS) were done by the U.S. Environmental Protection Agency (USEPA) through a contractor beginning in early 1985. Only a brief summary of what was found in the RI is presented here. Additional details can be obtained from the report for the remedial investigation and from either of the two RODs.

Buried wastes at the site include foundry sand, wood, concrete, bricks, metals, slag, non-containerized liquids and sludges, and drummed liquid and solid materials. Depth of fill

ranges from about 0 to 10 feet. The water table is about 3 feet below the surface. Most of the filling appeared to have been in the central and southern portions of the site, with filling apparently having stopped at the ponded area in the southern portion (see Figure 1). During the RI it was found that some of the soils were contaminated with a variety of ketones, chlorinated ethanes, BETX (benzene, ethylbenzene, toluene, and xylene), PAHs (polycyclic aromatic hydrocarbons), phenols, pesticides, PCBs (polychlorinated biphenyls), plasticizers, and dioxins and furans. On- and off-site surface water bodies and sediments contained only low levels of VOCs (volatile organic compounds), PAHs, pesticides, and metals at low frequencies of detection. An oil layer was found floating on the groundwater in the central and south central portions of the site. The groundwater under the site, which flows generally to the northeast at very low velocities, was found to be contaminated with approximately 100 organic and inorganic substances, including many of the compounds found in the oil layer. However, groundwater contamination was found, for the most part, to have not migrated beyond the site boundaries, except on the eastern and northeastern sides of the site. The groundwater on the site is also contaminated by high concentrations of dissolved solids, including chlorides, that have migrated from an off-site source south of the site.

In the baseline risk assessment, which assumed that there would be no remediation of the site, the current use scenario showed carcinogenic risks as high as 1.5×10^{-2} for trespassers on the site, mainly due to dermal contact with soils contaminated primarily with PAHs and PCBs. Under the current use scenario, no risk was found due to groundwater use off the site. Surface water was found to present no significant risk to human health but some metals and pesticides were found to exceed Federal Ambient Water Quality Criteria (AWQC), indicating potential harm to aquatic life. It was found that sediments might affect aquatic life through transfer of PCBs and chlordane to water. In the future use scenario, groundwater under the site, used as a source of drinking water, would result in a mean carcinogenic risk for ingestion of 1.6×10^{-1} and a hazard index of 62. High carcinogenic risks would also be present due to ingestion of (7.2×10^{-5}) and dermal contact with (3.9×10^{-3}) surface soils. Sediments exceeded background levels or a 10^{-6} carcinogenic risk for several PAHs, PCBs, and pesticides. Further information concerning the risks to humans can be found in the FSR ROD and in the report for the remedial investigation.

III. Enforcement Activities and Subsequent Investigations

Following the signing of the 1989 FSR ROD, the USEPA issued an Unilateral Administrative Order on August 17, 1989, with a prospective effective date of November 6, 1989, ordering those issued the Order to implement the recommended alternative outlined in the 1989 FSR ROD. A group of those to whom this Order was issued (the Ninth Avenue Respondents) have been complying with this Order. On January 30, 1991, an Administrative Order on Consent was signed whereby a number of parties agreed to a de minimis settlement in which they settled their potential liability by the payment of specified dollar amounts toward response costs at the site.

Following the signing of the 1988 ISR ROD, on December 7, 1988 USEPA issued an Unilateral Administrative Order with a prospective effective date of December 30, 1988, ordering the potentially responsible parties (PRPs) to implement the recommended alternative

outlined in the 1988 ISR ROD. On January 13, 1989, approximately 75 of these PRPs agreed to comply with this Order. On July 12, 1993 the report, *Ninth Avenue Program Interim Site Remedy Remedial Action Report*, dated March 1993, was accepted as the remedial action report for the interim site remedy; the acceptance of this report demonstrated the formal completion of the remedial action for that operable unit.

As part of the design phase for the FSR, a report was given to the Ninth Avenue Respondents by one of their contractors in February 1991 that described the results of several additional investigations at the site. One of these was a supplementary investigation to determine the extent and concentrations of the oil-contaminated materials that were to be excavated and thermally treated, using total petroleum hydrocarbon (TPH) as the indicator of contamination. In the January 1989 feasibility study (FS) report for the FSR, the amount that would have to be excavated for the alternative eventually selected was estimated to be about 36,000 yd^3. This alternative called for the excavation of oil-contaminated waste and fill materials within the estimated extent of the oil layer down to, but not including, the native sand. The February 1991 report estimated that the excavation required to meet these requirements, based on excavating to a proposed level of 100 ppm TPH, would amount to about 70,000 yd^3. The report also stated that, because it would be difficult in the field to define clearly where fill ended and native soil began, some native soils would also need to be excavated, and the estimated total quantity of material that would need to be excavated would actually amount to about 89,000 yd^3.

Because of the large increase in the estimated amount of material that might have to be excavated and thermally treated and because it was believed that the estimated unit cost used in the 1989 FS report was low, the Ninth Avenue Respondents looked at possible alternatives to the selected remedy and performed treatability studies. They submitted a report for this study on January 15, 1993.

Prior to the submittal of this report, the Ninth Avenue Respondents had already installed the following (see Figure 1):

- a slurry wall around approximately 17 acres that contained the known extent of groundwater contamination;
- an extraction system for removing groundwater and oil;
- a system for the separation of the oil from the groundwater, storage tanks for the oil, and a treatment system for the groundwater to provide an approximately 90% reduction in the chemical oxidation demand (COD) of the water;
- a trench system for the reintroduction of the groundwater inside the slurry wall in order to promote flushing of the oil toward the extraction wells; and
- a system for removing surface water from the site, treating it, and pumping it through a pipeline to the Grand Calumet River.

Discharge of treated surface water began in April 1992. This discharge has been done in accordance with a NPDES permit.

Operation of the groundwater extraction, treatment, and reinjection system began in February 1992.

In January 1993, the Respondents reported that, as of November 1992, the estimated total costs for the ISR were $18,900,000, not including PRP charges.

IV. Alternatives

In their January 1993 study, the Ninth Avenue Respondents considered the following remedial alternatives for the final site remedy:

1) containment system;
2) containment system with a soil vapor extraction system;
3) containment system with in situ bioremediation;
4) containment system with partial excavation and incineration of about 89,000 yd^3 of material (the remedy selected in the 1989 ROD); and
5) containment system with partial excavation and low-temperature thermal desorption of about 89,000 yd^3 of material.

The Respondents also investigated partial excavation and soil washing, to be used with a containment system. However, the treatability studies indicated that soil washing was not an effective technology at this site so an alternative based on this technology was not further evaluated.

The two alternatives investigated that include partial excavation also include long-term (about 15 years) groundwater pump and treat within the slurry wall following the construction of a new extraction and groundwater recharge system. This extraction and recharge system would treat the soils inside the slurry wall and outside the excavated area.

In addition to the slurry wall which has already been installed, each of the alternatives includes a RCRA (*Resource Conservation and Recovery Act*) Subtitle C cap that will complete the containment system and institutional controls that will prohibit the use of groundwater under the site and will provide for the protection of the cap, the slurry wall, and the other components of the remedy. The cap will cover the entire area presently contained within the slurry wall (approximately 17 acres), unless a modification of this, which is discussed below, is determined to be feasible. The cap will be connected to the slurry wall so that the fills and soils inside the slurry wall will be fully enclosed. A cap design might include the following layers: a) a 2-foot layer of compacted clay; b) a 40 mil high-density polyethylene geomembrane; c) a 1-foot layer of drainage material; d) a geotextile filter fabric; and e) a 2.5-foot layer of vegetative soil. A final design will be selected during the design phase.

Associated with the cap portion of the remedy are pre-cap surface preparations (primarily providing the necessary elevations and slopes in those areas to be covered with the cap), placement of compacted backfill in the wetlands at the south end of the area within the slurry wall, mitigation of the destroyed wetlands, a stormwater runoff retention pond, and seeding of the completed cap.

All of the alternatives listed above require some dewatering of the area within the slurry wall by discharging some treated groundwater. The amount of dewatering varies with the alternative. In the case of excavation, it would be necessary to bring the water table throughout the

area within the slurry wall to essentially the depth of the deepest excavation; preliminary indications are that it would be impractical to dewater only locally. In the case of the alternative employing soil vapor extraction (SVE), it would be necessary to bring the water table down to 10 to 12 feet below the surface to remove the water from the area of contamination through which air is to pass and to ensure that there would always be an inward water gradient at the slurry wall. In the case of the other alternatives, it would be necessary to partially dewater the area in order that the necessary fill could be added and the cap constructed.

The preferred dewatering system uses the present groundwater treatment system for the primary treatment of the groundwater being extracted. The effluent from this system would be sent through the present surface water treatment system and the existing pipeline for discharge into the Grand Calumet River in accordance with an NPDES permit. Additional treatment would be added if it is needed to meet the discharge requirements. Other means of treating the water might also be used if there is a reason for making the change and the changes are acceptable to USEPA. A possible alternative method for disposing of this water is discharging it into the deep well which is being installed at the nearby MIDCO I Superfund Site.

A modification of the containment system described above that has been considered for all of the alternatives is the installation of an intermediate slurry wall (possibly using a vibrating beam slurry wall technology) across the site in an approximately east to west direction near the north end of the surface water and wetlands and south of the recovery pumping wells (see Figure 1). To the north of this new slurry wall would be the "primary containment area". Only the primary containment area would be capped (about 12 acres) in the manner described above. The surface water and wetlands to the south of the cap would remain, would be available to wildlife, and would be used as the retention pond for storm water management. If the new slurry wall can be placed in the desired position, the capacity of the pond will exceed the minimum required for this management. If the slurry wall placement does not provide a pond with sufficient capacity, then additional pond capacity will have to be provided elsewhere. Runoff from the surface of the cap into the pond will not be coming into contact with contaminated materials.

This modification has been considered because analyses of surface water samples going into the surface water treatment system have generally not shown any detectable concentrations of organics that were analyzed for. Between June 7, 1993 and October 12, 1993, there were six sampling events for which results were reported. Four of these included results for VOCs (four were analyzed for), semi-volatile organic compounds (SVOCs) (in three of the four cases, only 17 PAHs and bis(2-ethylhexyl)phthalate were analyzed for), and pesticides and PCBs (heptachlor and seven of the Arocolors (PCBs) were analyzed for). In two of these four cases the phthalate mentioned above was detected (once a little below the detection limit of 10 μg/l and once slightly above it); this is a common laboratory contaminant. The rest of the substances analyzed for were not detected. In the other two sampling events, only one pesticide and 7 PCBs were analyzed for, and none were detected, and in one of these cases the four VOCs were also analyzed for and none were detected.

Before this containment system modification would be utilized, however, the sediments and

soils in the southern part of the area within the present slurry wall will have to be investigated further and all available data must be fully evaluated to determine that no unacceptable exposures would be left in the area. If some small areas of contamination are found that could be remediated by removing the contaminated material, the excavated material would be placed in the primary containment area where it would be covered by the cap.

If this containment system modification is implemented, on-site wetlands would be preserved and, it is estimated, the remediation costs would be reduced by about 2.5 million dollars. Also, the amount of water that would have to be discharged from the site to the river to obtain the necessary dewatering would be reduced. If an intermediate slurry wall is installed, its location will have to be approved by USEPA.

Since the Proposed Plan for the Record of Decision Amendment was issued on March 29, 1994, it has been decided to investigate further the pond and sediments that lie within the slurry wall to the west of the recovery pumping wells (see Figure 1) to determine if some of this area can be left out of the primary containment area. Doing so would preserve additional on-site wetlands and pond area within the outer slurry wall, decrease further the amount of water that would have to be discharged to the river during the site dewatering, and simplify the design of the cap. This area will be evaluated in the same manner described for the southern wetlands, including further investigations of the sediments and soils.

All of the above alternatives require post-closure care for the site. This includes monitoring of the groundwater both inside and outside the present slurry wall and monitoring of the surface water to evaluate the continued effectiveness of the remedy and to determine that human health and the environment are still being protected. If the containment system modification is implemented, periodic evaluation of the pond and wetland areas will be necessary to determine the suitability of these areas as wildlife habitat. Care of the site also includes maintenance and monitoring of the cap, fence, and slurry wall and management of the surface water. In addition, it includes maintaining the water elevation inside the primary containment area below the water table outside the area in order to maintain an inward gradient across the slurry wall. The water removed for this purpose will be disposed of in a manner which is appropriate and acceptable to USEPA. Although a treatment system installed at the site that would produce an effluent disposable under an NPDES permit could be used, it is most likely that this contaminated groundwater will be stored on site until enough is accumulated to make it practical to ship it off-site for disposal at a facility which is appropriate and acceptable to USEPA; one or more existing on-site tanks might be used for this temporary on-site storage. As an alternative, groundwater accumulated in the on-site tanks might be transferred to the adjacent MIDCO I Superfund Site for disposal by injection into a deep well, if this is found to be acceptable to USEPA. This deep well is currently under construction. It is noted that the amount of water that may infiltrate into the space enclosed by the containment system (consisting of the slurry wall, the RCRA cap, and the underlying aquitard) has been estimated to be fairly small.

In the soil vapor extraction system, volatile chemicals are removed from below the ground surface by injecting air into the ground through a series of delivery wells and simultaneously exhausting air and volatiles from the ground through a series of extraction wells. At this

site, the SVE system would be operated after the cap has been installed so that the cap helps control the injected air. Treatment of the exhaust gases for the removal of extracted volatiles may be necessary. The determination concerning treatment is based on a risk analysis and the allowable emissions from the site. It is expected that a test well would be constructed at the site prior to the installation of this system. This test well would provide information about the level and nature of the contamination in the exhaust gas. Based upon this information, what treatment would be necessary for this gas would be determined and the necessary equipment would be designed and selected. An additional benefit of a SVE system is that oxygen is supplied to the area of contamination and some aerobic biodegradation of low volatility compounds generally occurs in association with the operation of the system. It has been estimated that the system might be operated for about 10 years.

In situ bioremediation is the process of enhancing the natural biological activity of an existing aquifer or waste site. At this site, the existing or upgraded groundwater treatment facility would be used to add a source of oxygen and possibly nutrients to the aquifer within the slurry wall. It has been estimated that the process would be operated for at least 15 years.

The two alternatives that include excavation and treatment are based on the excavation of about 89,000 yd^3 of material. The treatment, either incineration or low temperature thermal desorption, would be done on site using a mobile unit. The major activities that are a part of these two alternatives are: site preparation and installation of the treatment equipment; excavation, treatment of materials, and disposal of the residuals in the excavated areas on site; air monitoring; health and safety oversight; dismantling of the process equipment; reconstruction of the extraction oil field; and installation of the cap. It has been estimated that it would take 29 to 33 months to complete the treatment portion of these alternatives.

In the four alternatives that include a treatment technology in addition to containment, the attainment of health based cleanup levels in the primary containment area is not the target. This was also the case with the remedy selected in the 1989 ROD. In the case of an in situ technology, the system would be operated until it was demonstrated, based upon data obtained during operation and at the time of the proposed termination, that further operation of the system would not result in significant further reduction in the contamination. The length of time that the system would be operated would be long enough to allow for the removal of contaminants from isolated pockets. In the two cases including excavation of contaminated material, the extent of excavation would be the same as called for in the 1989 FSR ROD; excavation would nominally be down to native soils (but some would probably be excavated) and would include oil-contaminated materials as defined by an objective method, such as the previously used criteria, which was excavating those materials containing greater than 100 ppm TPH.

The following are the estimated costs that have been developed by the Ninth Avenue Respondents for each of these alternatives, not including the PRP costs:

Alternative	Estimated Cost
1) containment system	$22,800,000
2) containment system with soil vapor extraction system	$24,800,000
3) containment system with in situ bioremediation	$61,600,000
4) containment system with partial excavation and incineration (FSR ROD remedy)	$101,200,000
5) containment system with partial excavation and low-temperature thermal desorption	$92,000,000

Each of these estimated costs contains an amount that allows for the escalation of the costs over time. It was assumed that 1992 estimated costs for services and materials would escalate at a rate equal to 4 percent per year throughout the duration of the program.

V. Summary of Community Participation

Since the issuance of the Proposed Plan for the FSR ROD signed on June 30, 1989 and the public meeting that was held in conjunction with this, there has been a June 1991 fact sheet and a public meeting held on July 2, 1991. The primary purpose of this fact sheet and meeting was to inform the public of the beginning of the construction of the components for the interim site remedy.

For this ROD Amendment, a Proposed Plan was issued on March 29, 1994 that was sent to the parties on the mailing list. A public meeting was held on April 13, 1994 at the Gary City Hall for the purpose of discussing the proposed changes and receiving public comment. A public comment period was held from March 30, 1994 through April 29, 1994. These were advertised in Gary and Hammond, Indiana, newspapers. The meeting and comment period were also announced in the Proposed Plan.

The administrative record and other documents dealing with the site are available to the public in information repositories located in the Gary Public Library—Main Branch (220 West 5th Avenue, Gary, Indiana) and Hammond City Hall—Health Department (3rd Floor) (5925 Calumet Avenue, Hammond, Indiana). A copy of the administrative record is also located in the offices of the U.S. Environmental Protection Agency, Region V (77 West Jackson Boulevard, Chicago, Illinois).

VI. Evaluation of Alternatives

This section provides a comparative analysis of the alternatives that have been presented here with respect to the nine evaluation criteria. The first two criteria listed below are the threshold criteria, the next five are the primary balancing criteria, and the last two are the modifying criteria.

Normally a "no action" alternative is also evaluated. However, this alternative was evaluated in the 1989 ROD and determined to be inappropriate. This determination remains unchanged.

Overall Protection of Human Health and the Environment. All five of the alternatives considered here provide protection of human health and the environment. The containment system prevents contact with the wastes and contamination and prevents movement of contamination into the air or adjacent parts of the aquifer. The treatment systems that are part of the last four alternatives permanently remove some of the contamination from the site which enhances the protectiveness of these alternatives. It is noted that all alternatives considered require the containment system (i.e., slurry wall and RCRA cap) to be in place for overall protection of human health and the environment.

The containment system modification, if it can be implemented, will save most of the existing wetland areas and the pond, and these will provide habitat for a variety of wildlife. This modification will also reduce the amount of groundwater that will have to be removed from the site and be discharged off the site during the implementation of the remedy. The pond will provide storage capacity for runoff from the cap covering the contaminants remaining at the site. While this runoff will be free of contamination, some people may still be concerned about it. This control over the runoff will alleviate many of these concerns and will allow the runoff to be readily monitored.

Compliance with Applicable or Relevant and Appropriate Requirements. All five of the alternatives would attain all applicable or relevant and appropriate requirements (ARARs). All of the alternatives would have to address groundwater contamination outside of the containment slurry wall, except contamination in the vicinity of Ninth Avenue and the Cline Avenue frontage road which has been excluded. (The exclusion is explained below in Section VII.)

Long-term Effectiveness and Permanence. The treatment systems that are part of the last four alternatives will provide additional assurances of long-term effectiveness and permanence over the containment only alternative since some of the contamination will actually be removed. However, all five of the alternatives provide long-term effectiveness and permanence since the containment system is to be monitored and maintained. Any repair of the containment system that might be needed in the future would not be expected to result in releases that could not be controlled.

Reduction of Toxicity, Mobility, or Volume Through Treatment. All four alternatives that include treatment will result in the removal of some of the contaminants from the site. The type and degree of reduction will vary with the treatment system. With the soil vapor extraction system, there would be significant reductions in the concentrations of the volatiles and some reductions in the concentrations of the other organics present. With the excavation and thermal treatment alternatives, there would be very high reductions in the concentrations of all organics in the area of the excavation and lesser reductions outside of this area that would result from the pump and treat system. Modeling has shown that meaningful reductions in the levels of volatiles would also occur in the case of a containment only system due to anaerobic degradation. Furthermore, it is noted that the operation of the present pump and treat system has already resulted in significant reductions in the levels of the contaminants in the highly contaminated central portion of the site. Consequently, there have been and will continue to be reductions in the amounts of contaminants present inside the slurry

wall.

Short-term Effectiveness. The two alternatives that include excavation would require comprehensive measures to be taken to protect workers and the surrounding community from possible emissions during excavation. Therefore, maintaining short-term effectiveness during the implementation of these two alternatives would be more problematic than with the other three alternatives. The alternatives that do not include excavation would result in the installation of the cap within a shorter period of time. The cap will greatly reduce the risks due to exposure to the contaminants. In the case of the first three alternatives, it is expected that the cap would be installed within 12 to 18 months after the remedy has been selected. In the case of the last two alternatives, the excavation and treatment would take 2.5 to 3 years to complete, after which time the cap would be installed.

Implementability. All the alternatives employ conventional and readily available equipment and services, so no problems would be expected with technical feasibility. Obtaining a mobile treatment unit for either of the thermal treatment alternatives could cause a delay if scheduling problems should arise. There has been past opposition shown to incineration at this site and many others, and such opposition, if it should continue, could result in additional delays in completing the remedial action if Alternative 4 were to be selected.

Cost. The approximate cost of each alternative has been listed in Section IV. It can be seen that the last three alternatives are considerably more costly than the first two. However, the level of protectiveness of these last three alternatives has not been shown to be significantly greater than that of the first two, especially that of Alternative 2. The estimated cost difference between Alternatives 1 and 2 is relatively small.

State Acceptance. The Indiana Department of Environmental Management (IDEM) concurs with the change in remedy from excavation and thermal treatment of waste to soil vapor extraction. A letter from IDEM stating this is in Appendix B.

Community Acceptance. At the public meeting and during the comment period, several comments were received concerning the site. These are addressed in Appendix A. None of the comments objected to the change. Furthermore, none of the comments contended that one of the other alternatives should be selected, or that changes should be made in the preferred remedy.

In the 1989 FSR ROD it was reported that community leaders had expressed opposition in public meetings and public comments to on-site incineration because of concerns about possible air emissions. These concerns were responded to in the Responsive Summary of that ROD, but it is likely that some of these same concerns would reappear if the alternative that includes incineration were to be selected for the final site remedy.

VII. Description of Selected Remedy

The selected remedy is Alternative 2, Containment System with Soil Vapor Extraction, with the modification that includes the installation of the intermediate slurry wall unless USEPA

determines that it is not feasible. The major components of this selected remedy are:

- installation of the intermediate slurry wall, unless the USEPA determines that it is not feasible, that will separate the "surface water area" from the contaminated area (primary containment area);
- removal of debris and contaminated sediments from surface water bodies on the site that are to remain, and placement of this material under the cap;
- installation of a soil vapor extraction (SVE) system covering the portions of the primary containment area known to be contaminated (after necessary dewatering) and subsequent operation of the system to provide a performance that is appropriate and acceptable to USEPA while maintaining the water level about 10 feet below the present surface;
- disposal of the oil extracted during implementation of the first operable unit in a manner which is appropriate and acceptable to USEPA, most likely in an off-site incinerator;
- installation of a RCRA Subtitle C cap over the primary containment area, landscaping of the site, and establishment of a storm water management system which includes discharge of excess water and which is appropriate and acceptable to USEPA;
- containment or extraction and disposal, by a means which is appropriate and acceptable to USEPA, of contaminated groundwater or source(s) of groundwater contamination found outside the primary containment area;
- removing or securing any equipment which was used during implementation of the first operable unit that will not be used as part of this remedy;
- maintenance of an acceptable water level within the primary containment area and disposal of the excess water by a means which is appropriate and acceptable to USEPA;
- deed and access restrictions that prohibit use of groundwater at the site and protect the remedy; and
- operation and maintenance of the remedy, including the fence and slurry wall installed in the first operable unit, and monitoring of the site to ensure protectiveness.

During monitoring that has been performed subsequent to the construction of the interim site remedy, some contamination has been found in groundwater outside the slurry wall along the northeast portion of the wall. As part of the final site remedy, the extent and level of this contamination will be determined. If USEPA determines that this contamination requires remediation, the contaminated groundwater will either be contained or removed, treated, as required, and disposed of in a manner which is appropriate and acceptable to USEPA or the source of the contamination will be removed in a manner which is appropriate and acceptable to USEPA. If containment is selected, a slurry wall will be constructed around the area of contamination and the area enclosed will be covered by the cap. The elevation of the water in this area of contamination will be maintained at a level below the water table outside the additional slurry wall. This remediation will be performed until the target cleanup levels (TCLs) defined in the 1989 ROD have been achieved.

Contaminated groundwater outside the slurry wall in the area surrounding some monitoring wells along Ninth Avenue and the Cline Avenue frontage road (X52, X48, X49, X50, and X51) was excluded from consideration in the FSR ROD, because, as explained in the FSR ROD, these wells showed low levels of organic contamination that did not appear to be attributable to the site. This area is still to be excluded from consideration.

VIII. The Significant Change With the Selected Remedy

The remedy described above has been selected because it is the alternative that strikes the optimum balance among the evaluation criteria, is the most cost-effective, preserves more wetlands and can be implemented more quickly than the previously selected remedy, is acceptable to the community, provides overall protection of human health and the environment, and complies with the ARARs. This remedy will result in a significant change to the remedy chosen in the 1989 ROD. The primary change is the deletion of excavation and thermal treatment (originally anticipated to have been incineration) of the part of the material within the slurry wall that contains the worst of the contamination and the deletion of a long-term (10 to 15 years) pump and treat operation for the groundwater within the slurry wall. Instead, the selected remedy uses soil vapor extraction for removing and treating contaminants within the slurry wall.

Excavation and thermal treatment would be expected to remove all of the organic contamination in the area excavated, but nothing outside of this area. The pump and treat operation would be expected to flush out contamination remaining outside the area of excavation. However, some of this contamination has been adsorbed by or trapped in the soils and wastes, and its removal would depend on reaching the contamination and solubilizing it in the water. But many of the substances present are essentially insoluble in water, so their removal would be difficult. The soil vapor extraction system would primarily remove the volatile organics present throughout the primary containment area. It would also, through the introduction of air, promote biological destruction of other contaminants which are less volatile. It is the volatile materials that are generally more soluble in water and therefore more mobile and of the greatest concern.

The remaining changes that will result from the selection of the preferred remedy are minor in nature with the exception of the possible installation of the intermediate slurry wall. It is noted that the intermediate slurry wall would probably have been added to the remedy in the FSR ROD even if the other changes were not made.

IX. Statutory Determinations

USEPA and IDEM believe that the selected remedy satisfies the statutory requirements of Section 121 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended by the Superfund Amendments and Reauthorization Act of 1986 (CERCLA) to protect human health and the environment, to attain ARARs, to be cost-effective, and to utilize permanent solutions and alternative treatment technologies to the maximum extent practicable.

Protection of Human Health and the Environment. The selected remedy provides protection of human health and the environment through a combination of treatment and containment. The containment system will prevent the movement of contaminants off the site and will prevent trespassers and wildlife from coming in contact with the contaminants remaining at the site. The deed restrictions and the required maintenance will ensure the continued effectiveness of the containment system. The treatment that has already been carried out at the

site and the treatment that will be done with the soil vapor extraction system will reduce the amount of contamination at the site. Even after treatment with the SVE system has been halted, it is expected that there will be a continuing reduction in the amount of contamination at the site through anaerobic degradation.

Short-term impacts to nearby residents and workers at the site during construction are expected to be minimal. Air monitoring will be used during construction activities when emissions might occur.

The containment system modification, if it can be implemented, will save much of the existing wetland areas and the pond, which will provide habitat for a variety of wildlife. This modification will also reduce the amount of groundwater that will have to be removed from the site and be discharged off the site during the implementation of the remedy. The pond will provide storage capacity for runoff from the cap covering the contaminants remaining at the site.

Attainment of Applicable or Relevant and Appropriate Requirements. The selected remedy meets the Federal and more stringent State ARARs that have been identified. The ARARs and the criteria and guidances to be considered (TBCs) were indicated in the 1989 FSR ROD in Table 4 (ARARs and TBCs considered for all alternatives evaluated at that time) and in Table 6 (ARARs specific to the remedy selected in the FSR ROD). Some of those ARARs in Table 4 of the FSR ROD are now specific to the remedy selected in this ROD Amendment; in particular, those ARARs dealing with air quality must be complied with during the operation of the soil vapor extraction system.

Since the 1989 FSR ROD was issued, some of the Indiana regulations cited there have been updated. Some of the changes are: 330 IAC has been repealed and/or transferred to 327 IAC; 320 and 320.1 IAC have been repealed and/or transferred to 329 IAC; 325 and 325.1 IAC have been repealed and/or transferred to 326 IAC; and 327 IAC 2-1-6 has been promulgated, and thus is no longer in the proposed category it was then. Some of the new citations for Indiana regulations that are ARARs are:

327 IAC 2-1-6	Minimum surface water quality standards;
329 IAC 3.1-10-1	Adoption of federal interim status standards for owners and operators of hazardous waste treatment, storage, and disposal facilities (40 CFR 265);
327 IAC 5-2-2	Requirements to have a permit (as part of the basic NPDES requirements);
327 IAC 2-1-7	Interim ground water quality standards;
326 IAC 8	Volatile organic compound rules; and
326 IAC 6-4	Fugitive dust emissions.

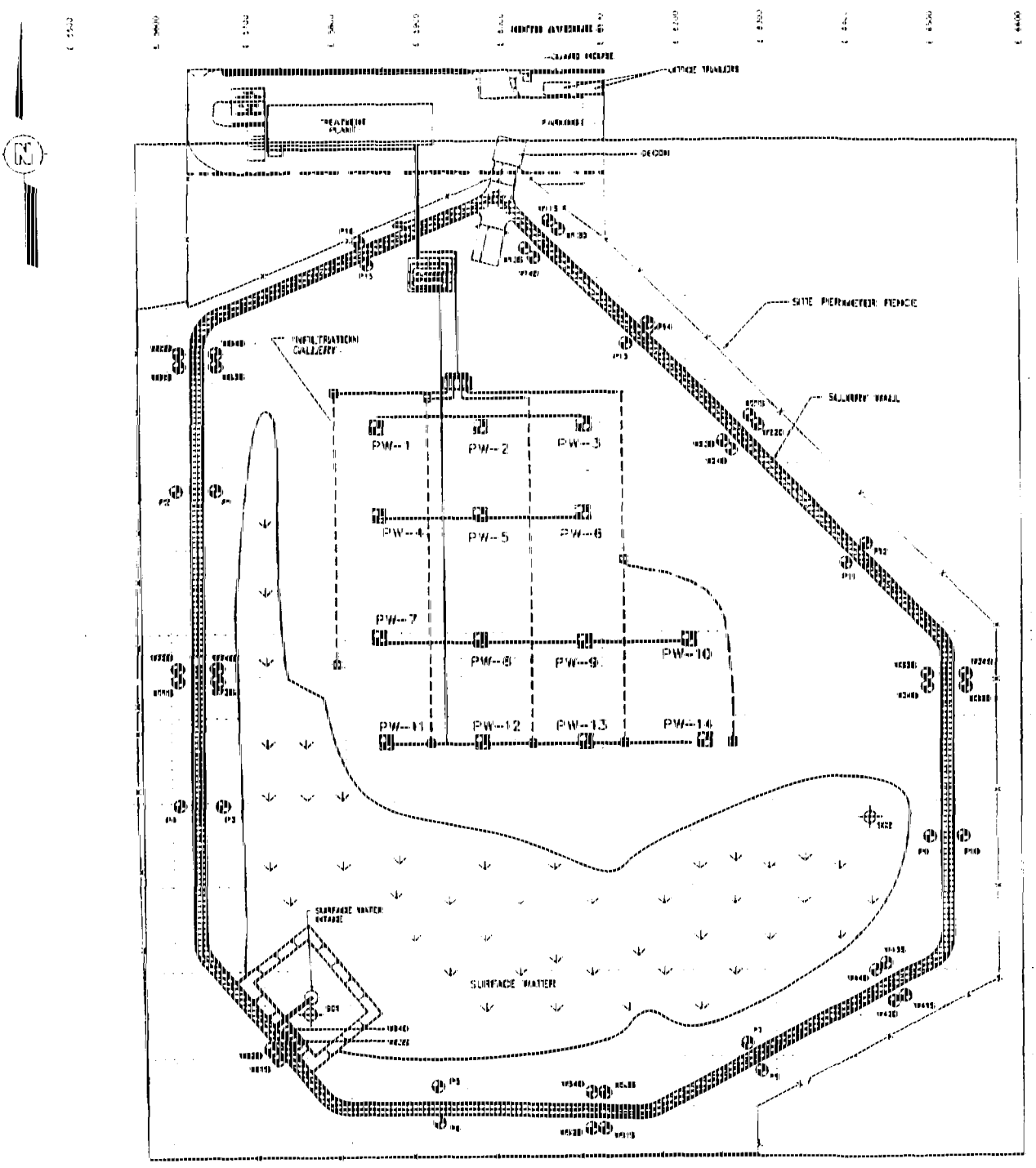
Cost-Effectiveness. The modified version of Alternative 2 is the most cost-effective alternative. Although Alternative 1 would meet all of the threshold and primary balancing criteria, in contrast, Alternative 2 utilizes active treatment of contamination which will permanently and significantly reduce the contamination which is present at the site, and do so for a relatively small cost. The other three alternatives are considerably more expensive than Alterna-

tives 1 and 2 and would still result in leaving wastes on the site as well as a need for maintaining a containment system.

Utilization of Permanent Solutions and Alternative Treatment Technologies to the Maximum Extent Practicable. The selected alternative provides the best balance of protectiveness, permanence, and cost. The selected remedy, in combination with the interim site remedy, utilizes permanent solutions and treatment technologies to the maximum extent practicable. Alternatives 3, 4, and 5 have been estimated to be much more costly to implement than the first two alternatives, and the benefit that might be gained from the use of the treatment technologies employed with those three alternatives is uncertain and therefore the additional costs associated with these alternatives are not justifiable, particularly since Alternative 2 meets the threshold criteria and provides the optimum balance for the remaining criteria. Alternative 2 was selected over Alternative 1 because, at a small increase in cost, the soil vapor extraction system selected with Alternative 2 will significantly reduce the amount of contamination at the site.

All of the alternatives considered result in hazardous substances, pollutants, or contaminants remaining at the site so a review of the remedial action will be required no less often than every five years.

Preference for Treatment as a Principal Element. The soil vapor extraction system included in the selected remedy will result in a significant reduction in the amount of contamination at the site. Already, the soil flushing and oil removal that were part of the interim remedy have significantly reduced the amount of contamination at the site. The last three alternatives involve more costly treatment, but still leave contaminants at the site.



LEGEND:

- PW-1 – GW/GROUNDWATER RECOVERY PUMPING WELL
- MW1S – PERIMETER MONITORING WELL OR PIEZOMETER
- SG1 – SURFACE WATER STAFF GAUGED

SCALE

0 100 200 400 FEET

FLUOR DANIEL	NORTH AVENUE RESPONDENTS GARY, INDIANA		838850
ENGINEERING	SITE AREA MAP		FIGURE 1 0

Ninth Avenue Dump Site
Record of Decision Amendment

List of Appendices

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Appendix A
Ninth Avenue Dump Site
Responsiveness Summary

A Proposed Plan for this Record of Decision (ROD) Amendment was issued on March 29, 1994. Copies of this were sent to the parties on the mailing list that the U.S. Environmental Protection Agency (USEPA) maintains for this site. A public meeting was held on April 13, 1994 at the Gary City Hall for the purpose of discussing the proposed changes for the final site remedy and receiving public comment. A public comment period was held from March 30, 1994 through April 29, 1994. These were advertised in the *Post Tribune* (Gary) and *The Times* (Hammond, Indiana). The meeting and comment period were also announced in the Proposed Plan.

Several oral comments were received during the public meeting; a written record of this meeting was kept, and this record has been made a part of the Administrative Record. Some of the comments were made by a representative of the owner of one part of the site (these are identified as those of the owner's representative) and others were made by various members of the audience (these are identified as those of the audience).

During the public comment period or shortly thereafter, two letters were received. An additional letter was received sometime later that was dated over two weeks after the close of the comment period.

In this responsiveness summary, the comments that were received are being addressed, including those in the letter dated outside the comment period. All comments being responded to here were considered by USEPA while making its final decision. The oral comments and written comments are addressed separately. The comment received is paraphrased and then the response is presented.

I. Oral Comments

1. Comment (Owner's Representative). An owner of the site should be compensated for her property being used during the cleanup.

Response. Unless USEPA determines that a potentially responsible party (PRP) or group of PRPs will voluntarily undertake the remedial actions necessary at a site, USEPA is authorized by Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended by the Superfund Amendments and Reauthorization Act of 1986 (CERCLA) to undertake the remedial action itself. Under Section 107 of CERCLA, the USEPA will seek reimbursement from PRPs of all costs incurred in connection with the actions taken. Such costs may include, but are not limited to, expenditures for investigations, planning, response, and enforcement activities. Moreover, under Section 106 of CERCLA, USEPA may order PRPs to implement relief actions deemed necessary by

USEPA to protect the public health, welfare, or environment, should those PRPs decline to voluntarily undertake remedial action at the site.

Responsible parties at this site, under Section 107 of CERCLA, include current owners and operators of the site, former owners and operators of the site at the time of disposal of hazardous substances, persons or companies who owned or possessed hazardous substances and arranged for disposal, treatment, or transportation of such hazardous substances and persons or companies who accepted hazardous substances for transportation for disposal or treatment to a facility selected by such transporter.

Generally the cleanup of the site enhances the value of the property. Therefore, the work being done benefits the owner.

2. Comment (Audience). The commenter said that he/she realizes that the capped area cannot be used for anything, but he/she said that it would be beneficial if the wetland would be safe enough for a habitat. Then the commenter expressed a concern about whether, after all of the money that will be spent on this site, the surrounding property would have any value. The commenter also asked about the usefulness and return that are received for the tax dollars that are used in remediating a site like this.

Response. Deed restrictions are to be placed on the property being remediated that will help to protect the work that will have been done at the site. The wetland and pond area inside the current slurry wall will be available for use by wildlife if the intermediate slurry wall is built. This area will only remain outside of the capped area if it is safe for use by wildlife. Before the additional slurry wall can be built, sampling of the area to be left uncapped is to be undertaken to determine that it is indeed safe to leave this area outside of the capped area. The capped area cannot be used for anything that will cause damage to the cap. But it too will be available for use by wildlife, and there may be other possible future uses. The property near the road that has not been contaminated may be available for use at a later time if it is not needed to support the remediation and if such use will not interfere with the maintenance of the site.

A large amount of money will have been spent on this site by the time the work has been completed. This is necessary to make sure that the contamination that is present is not a danger to human health and the environment. In this case, most of the costs are being paid by private potentially responsible parties (not tax dollars), and the government is currently seeking to recover the remaining costs from liable parties. In addition, as noted above, the property will be available for uses which do not interfere with the protection of human health and the environment.

The fact that this is a National Priorities List site that has been remediated should not greatly affect the value of the surrounding properties. However, this will depend on the perceptions of the various parties that become involved and the proposed uses for the surrounding properties.

3. Comment (Owner's Representative). It was stated that the work should not continue until a settlement is reached with the owner of part of the site.

Response. No useful purpose would be served by stopping work at this time until a settlement is reached with the owner of part of the site. An attempt to reach this settlement

can proceed while the work continues at the site.

4. Comment (Audience). Both a general comment about public participation in the Superfund process and a specific comment about public participation at this site was made. The commenter said that the public should have been informed and allowed to participate at the beginning of the process. The commenter said that the public is angry because they feel they have been left out and that the Agency has been going behind their backs. The commenter mentioned that among the evaluation criteria, the community is No. 9, very last.

Response. At this site, the public has been kept informed of what has been happening for a number of years. A "Final Community Relations Plan" was issued in July 1986. Fact Sheets dated June 1991 (announcing a meeting on July 2, 1991), July 1989, March 1989 (announcing a meeting on March 29, 1989), November 1988, June 1988 (announcing a meeting on July 13, 1988), Winter 1988, and August 1986 (announcing a meeting on August 13, 1986) have been issued. Environmental News Releases dated August 4, 1986, December 13, 1984, November 29, 1984 (announcing a meeting on December 12, 1984), and August 26, 1980 have been issued. Written records are available for the meetings held on March 29, 1989 and July 13, 1988.

For this ROD Amendment, the Proposed Plan was issued on March 29, 1994. It was sent to the parties on the mailing list. A public meeting was held on April 13, 1994 at the Gary City Hall for the purpose of discussing the proposed changes and receiving public comment. A public comment period was held from March 30, 1994 through April 29, 1994. These were advertised in Gary and Hammond, Indiana, newspapers. The meeting and comment period were also announced in the Proposed Plan.

The administrative record and other documents dealing with the site are available to the public in information repositories located in the Gary Public Library--Main Branch (220 West 5th Avenue, Gary, Indiana) and Hammond City Hall--Health Department (3rd Floor) (5925 Calumet Avenue, Hammond, Indiana). A copy of the administrative record is also located in the offices of the U.S. Environmental Protection Agency, Region V (77 West Jackson Boulevard, Chicago, Illinois).

The fact that community participation is frequently listed last among the evaluation criteria does not mean that it is considered the least important. Indeed, it is given great importance. It is one of the criteria. The Agency has to consider all of the criteria.

5. Comment (Owner's Representative). The commenter stated that the people in Gary do not agree with the Agency. He again said that nothing else should be done on the project until the citizens agree with the Agency.

Response. There has been no evidence presented that the people of Gary and the surrounding communities do not agree with the Agency with regard to what should be done at this site. No comments were received that questioned or objected to the means that are to be used for remediating the site. Due to the serious conditions at the site, it is important to move ahead with the cleanup.

II. Written Comments

1. Comment. The commenter stated that he had no comment on the proposed changes. He then mentioned that a RAP is being developed for this area by Indiana Department of Environmental Management (IDEM) and that it might be good for the Agency to work with their Habitat subcommittee with regard to using the site discharge for habitat enhancement.

Response. The suggestion will be considered.

2. Comment. Two commenters voiced concern about possible air pollution from the exhaust gas from the soil vapor extraction system. What the constituents will be, what the flow rate will be, and how the emissions are to be controlled were mentioned.

Response. Before the soil vapor extraction system is designed and installed, it is expected that a test well will be installed at the site. This well will provide information concerning the nature of the soil and fill and the types of gases present and their level in the extracted stream. These gases may contain any of the volatile organic compounds that have been identified at the site and some of the more volatile of the semivolatile organic compounds present. There may also be carbon dioxide present.

The gases that will be withdrawn from the soil under the cap will be flowing through a pipe to a blower from which they will be exhausted. Since the gases will be contained within a pipe, if any treatment is necessary, it can easily be done. The gas that is exhausted to the atmosphere will have to meet any Federal or State requirements and will not be allowed to result in an unacceptable risk for anyone at the site or in nearby residential areas.

The best means for treating the exhaust gas, assuming that it will need some treatment, will be determined after the information from the test well has been obtained and/or the required information has been obtained from modeling results.

(It is noted that the exhaust gas from the test well will be treated before it is released to the atmosphere.)

3. Comment. The commenter wanted to know which came first, the ROD Amendment or the NPDES (National Pollutant Discharge Elimination System) Permit Modification.

Response. As stated in the "Proposed Plan for Record of Decision Amendment", all of the alternatives considered require some dewatering of the site. One of these alternatives was the remedy selected in the June 1989 Record of Decision (ROD) for the final site remedy (FSR). Because of this, the Ninth Avenue Respondents requested a NPDES permit modification since this was going to be necessary no matter which alternative being considered for the final site remedy (including the remedy already selected in the Record of Decision) was selected. It was necessary to proceed with the dewatering as quickly as possible so that as much work could be done during the 1994 construction season as possible.

4. Comment. The commenter stated that a beneficial use of the pond at the south end of the site, which is proposed as a habitat for wildlife, would be welcomed. However, she asked whether the sediments there had been tested and if there is the potential for contami-

nation through the introduction of groundwater from the MIDCO I site or other areas.

Response. Before a decision is made to leave the present pond area out of the primary containment area, which is the area that will be capped, sediments will be tested. Based on the results of these tests, the location of the intermediate slurry wall will be determined. If some small areas of contamination that can be remediated by excavating the contaminated materials are found in the area that is to be outside the primary containment area, the material will be excavated and placed in the area to be capped.

The pond and wetland area that will be retained outside the capped area but inside the present slurry wall, which is the area being discussed here, will be isolated from the groundwater under the cap and the groundwater presently outside the slurry wall by the two slurry walls and the aquitard[1] under the site. However, small amounts of seepage might occur. Water entering this area will mainly be rainfall and runoff from the clean materials of the cap.

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1 An aquitard is a naturally occurring confining layer that resists the flow of water through it.

Appendix B

Letter from Indiana Department of Environmental Management

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live

Evan Bayh
Governor
Kathy Prosser
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
Telephone 317-232-8603
Environmental Helpline 1-800-451-6027

July 13, 1994

Bernard Schorle, HSRL-6J
Remedial Project Manager
U.S. EPA, Region V
77 W. Jackson Blvd.
Chicago, IL 60604

Dear Mr. Schorle:

Re: Draft ROD Amendment, Ninth Avenue Dump Site, Gary, IN

Staff has reviewed the Draft ROD Amendment. IDEM concurs with the change in remedy from excavation and thermal treatment of waste to soil vapor extraction. However, the change from capping the entire area within the existent slurry wall to capping only a portion and leaving a pond on the remainder is a change in remedy that necessitates addressing those ARARs that pertain to the protection of surface waters, wetlands, fish and wildlife.

A listing of ARARs for the selected remedy should be included in the Amended ROD as it was in Table 6 of the ROD. "Probable ARARs" pertaining to surface waters under "Chemical-Specific" and pertaining to wetlands, fish and wildlife under "Location-Specific" in Table 4 of the ROD should now be included in a revision of Table 6. Regulations cited in Table 4 of the ROD have been updated as follows: 330 IAC has been repealed and/or transferred to 327 IAC; 320 and 320.1 IAC have been repealed and/or transferred to 329 IAC; 325 and 325.1 IAC have been repealed and/or transferred to 326 IAC; 327 IAC 2-1-6 is now promulgated, rather than proposed as listed in ROD. Requirements of rules cited in the ROD have changed but citations should remain as originally cited with the appropriate updated Titles identified in the Amended ROD. The most recent updates of cited requirements will be transmitted under separate cover. A copy of the promulgated minimum surface water quality standards (327 IAC 2-1-6) is enclosed.

In the last paragraph of p. 8, provision is made for the monitoring of ground water and surface water during remediation and post-closure. Periodic monitoring of sediments in the pond and toxicity tests of surface water should also be a requirement to assure that the pond will provide suitable wildlife habitat.

The pond is to be utilized for both flood control and habitat for wildlife. A provision should be included to determine the water-level that will be compatible with both functions but still be elevated enough to provide for inward flow across the intermediate slurry wall into the contaminated area.

These provisions were discussed in greater detail in our comments on the Intermediate Slurry Wall Line of Travel Study and Soil/Sediment Assessment; please refer to our letter of June 17, 1994.

If you wish to discuss any of these comments further, please phone Bob Schaible, Project Manager, (317) 233-6426.

Sincerely,

Greta J. Hawvermale
Assistant Commissioner
Office of Environmental Response

Enclosure

Appendix C

Administrative Record Index

U.S. EPA ADMINISTRATIVE RECORD
NINTH AVENUE DUMP SITE
GARY, INDIANA
UPDATE #7
03/29/94

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	09/29/88	Adamkus, V., U.S. EPA		Declaration for the Record of Decision	42
2	12/07/88	Constantelos, S., U.S. EPA		Unilateral Administrative Order	107
3	06/30/89	Adamkus, V., U.S. EPA		Declaration for the Record of Decision	80
4	08/17/89	Constantelos, S., U.S. EPA		Unilateral Administrative Order w/Cover Letter	77
5	04/19/90	Groundwater Technology, Inc.	U.S. EPA	Results of Exploratory Excavation and Hydrocarbon Recovery Pilot Test, Revision 1	182
6	02/06/91	International Technology Corporation	U.S. EPA	Remedial Design/Remedial Action Full Site Remedy w/Cover Letter	458
7	06/13/91	International Technology Corporation	U.S. EPA	Final (100%) Design Report, Interim Site Remedy--Oil Recovery/Groundwater Treatment - Volume 1 (Report and Appendices A-B)	833
8	06/13/91	International Technology Corporation	U.S. EPA	Final (100%) Design Report, Interim Site Remedy--Oil Recovery/Groundwater Treatment - Volume 2 (Appendices C-H)	672
9	06/13/91	International Technology Corporation	U.S. EPA	Final (100%) Design Report, Interim Site Remedy--Oil Recovery/Groundwater Treatment - Volume 3 (Appendix I)	414
10	10/00/91	U.S. EPA		Explanation of Significant Differences	8
11	02/07/92	Nehlish, C., IDEM	Knight, M., Fluor Daniel Environmental Services, Inc.	NPDES Permit No. IN 0056367 w/Cover Letter	20
12	06/10/92	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Technical Memorandum: Quarterly Groundwater Monitoring Report, Round 1 Results (April 1992); Volume 1 (Report) w/Cover Letter	88
13	06/10/92	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Technical Memorandum: Quarterly Groundwater Monitoring Report, Round 1 Results (April 1992); Volume 2 (Appendices A-F)	245

DOC#	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
14	09/10/92	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Technical Memorandum: Quarterly Groundwater Monitoring Report, Round 1 Results (April 1992); Volume 3 (Appendices G-J)	285
15	[illegible]	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Study of Alternative Technologies and Final Site Remedy Recommendation: Volume 1 (Report and Attachments A-D)	399
16	01/15/93	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Study of Alternative Technologies and Final Site Remedy Recommendation: Volume 2 (Attachments E-F)	400
17	01/15/93	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Study of Alternative Technologies and Final Site Remedy Recommendation: Volume 3 (Attachments G-H)	381
18	01/15/93	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Study of Alternative Technologies and Final Site Remedy Recommendation: Volume 4 (Attachments I-M)	273
19	03/06/93	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Interim Site Remedy, Remedial Action Report	140
20	03/01/93	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Technical Memorandum: Quarterly Groundwater Monitoring Report, Round 2 Results (July 1992); Volume 1 (Report and Appendices A-E) w/Cover Letter	263
21	03/01/93	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Technical Memorandum: Quarterly Groundwater Monitoring Report, Round 2 Results (July 1992); Volume 2 (Appendices F-H)	263
22	03/12/93	Canonie Environmental	U.S. EPA	Final Report: Construction Quality Control, Interim Site Remedy, Slurry Wall Construction; Volume 1 (Report and Appendices A-G) w/Cover Letter	443
23	03/12/93	Canonie Environmental	U.S. EPA	Final Report: Construction Quality Control, Interim Site Remedy, Slurry Wall Construction; Volume 2 (Appendix H)	443
24	03/26/93	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Technical Memorandum: Quarterly Groundwater Monitoring Report, Round 3 Results (October 1992); Volume 1 (Report and Attachments A-E) w/Cover Letter	292
25	03/26/93	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Technical Memorandum: Quarterly Groundwater Monitoring Report, Round 3 Results (October 1992); Volume 2 (Appendices F-H)	301

ID#	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
[illegible]	[illegible]	Knight, M., Fluor Daniel Environmental Services, Inc.	Schorle, B., U.S. EPA	Letter re: Study of Alternative Technologies w/Attachment	2
[illegible]	[illegible]	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Technical Memorandum: Quarterly Groundwater Monitoring Report, Round 4 Results (January 1993); Volume 2 (Appendices D-H)	420
[illegible]	[illegible]29/93	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Technical Memorandum: Quarterly Groundwater Monitoring Report, Round 4 Results (January 1993); Volume 1 (Report and Attachments A-C) w/Cover Letter	139
[illegible]	[illegible]/18/93	Knight, M., et al; Fluor Daniel Environmental Services, Inc.	Schorle, B., U.S. EPA	Letter re: Modification of Groundwater Monitoring Program w/Attachments	93
[illegible]	[illegible]29/93	Knight, M., Fluor Daniel Environmental Services, Inc.	Schorle, B., U.S. EPA	Technical Memorandum in Response to Questions Regarding the Alternative Technologies Study w/Cover Letter	20
31	1[illegible]/20/93	Schorle, B., U.S. EPA	Knight, M., Fluor Daniel Environmental Services, Inc.	Letter re: Changes in Groundwater Monitoring	2
32	02/01/94	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Technical Memorandum: Quarterly Groundwater Monitoring Report, Round 5 Results (June 1993); Volume 1 (Report and Appendices A-D) w/Cover Letter	81
33	02/01/94	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Technical Memorandum: Quarterly Groundwater Monitoring Report, Round 5 Results (June 1993); Volume 2 (Appendices E-G)	397
34	02/11/94	Landman, B., IDEM	Knight, M., Fluor Daniel Environmental Services, Inc.	Letter re: Modification of NPDES Permit No. IN 0056367 w/Attachments	26

Ninth Avenue Dump Site
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Fluor Daniel Environmental Services, Inc., "Surface Water Analytical Data, Final Site Remedy, Ninth Avenue Site", May 25, 1994

Boles-Owen Stenographic Service, *A Hearing Was Held in the Matter of: Proposed Plan for Record of Decision Amendment--Ninth Avenue Dump Site, Gary, Indiana, April 13, 1994*

U.S. Environmental Protection Agency, *Proposed Plan for Record of Decision Amendment, Ninth Avenue Dump Site, Gary, Indiana, March 29, 1994*

Grand Cal Task Force, "Comments on the Proposed Plan", May 13, 1994

John Feeney, "The Ninth Avenue Superfund Site of Gary, Indiana, Proposed Record of Decision Amendment", April 19, 1994

U.S. Department of Agriculture, Soil Conservation Service, "Ninth Ave. Dump Superfund Site, Gary, Indiana", April 18, 1994

Fluor Daniel Environmental Services, Inc., *Ninth Avenue Program, Interim Site Remedy, Remedial Action Report*, March 1993

Indiana Department of Environmental Management, "Draft ROD Amendment, Ninth Avenue Dump Site, Gary, IN", July 21, 1994

Indiana Department of Environmental Management, "Updated Rules for the ROD Amendment, Ninth Avenue Dump Site, Gary, IN", July 22, 1994

ATTACHMENT 3

REMEDIAL ACTION
ADMINISTRATIVE RECORD

(Index and Documents)

for the

NINTH AVENUE DUMP SITE

GARY, INDIANA

JANUARY 1988

United States Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, IL 60604

INTRODUCTION

These documents comprise the Administrative Record for the Ninth Avenue Dump Site. An index of the documents in the Administrative Record is located at the front of the first volume along with a sampling/data index, guidance index and an acronym guide.

The Administrative Record is also available for public review at EPA's Region V Record Center, 77 West Jackson, 7th Floor, Chicago, Illinois, 60604 . Questions concerning the Administrative Record should be addressed to the U.S.EPA Waste Management Division Records Manager.

The Administrative Record is required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA).

Ninth Avenue Dump Site
Remedial Action
Administrative Record

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REMEDIAL ACTION
NINTH AVENUE DUMP SITE
GARY, INDIANA

FICHE/FRAME	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOCNUMBER
	1	85/02/05	Letter re: Recommendation of placement of monitoring wells	Jacqueline Strecker-Indiana State Board of Health	R. Bolce-U.S.EPA	Correspondence	1
	6	86/08/00	Superfund Program Fact Sheet	U.S.EPA Region V		Fact Sheet	2
	5	86/12/12	Public Meeting Agenda	U.S.EPA Region V		Meeting Notes	3
	1	86/08/13	Public Meeting of 8/13/86	U.S.EPA Region V		Meeting Notes	4
	20	81/03/13	Memo re: results from VIAR analyses of samples	Robert Greenlinger-U.S.EPA	A. Bowman-U.S.EPA	Memorandum	5
	17	82/06/02	Memo re: Sample results from Midco I	Region V TAT	B. Kush	Memorandum	6
	5	83/02/02	Preliminary Assessment Ninth Avenue Dump	Dan Mantler-Ecology & Environment, Inc.	File/U.S.EPA Region V	Memorandum	7
	3	87/01/21	Memo re: Ground Water Classification for Aquifers below the Midco I and Midco II Hazardous Waste Sites	Charles Sutfin-U.S.EPA	B. Constantelos - U.S.EPA	Memorandum	8
	2	86/08/04	EPA Environmental News Release titled: EPA to Begin Study on 9th Ave Dump Superfund Site	U.S.EPA	Public	News Release	9
	20	83/09/29	U.S. vs. Bertoli, et al. Partial Consent Judgment	U.S. District Court ND District of Indiana		Pleadings/Orders	10

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GARY, INDIANA

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	14	83/08/08	Site Inspection Report	EPA		Reports/Studies	11
	303	86/04/00	RI/FS Phase I Work Plan and Associated Plans	Versar Engineering, Inc.	U.S. Army Dist. Omaha COE	Reports/Studies	12
	351	86/04/00	An Inventory of Groundwater Use in the Vicinity of Hides I	Geotechnical Research Associates, Inc.	U.S.EPA	Reports/Studies	13
	26	86/07/00	Final Community Relations Plan	Camp Dresser & McKee, Inc.	U.S.EPA	Reports/Studies	14
	492	86/09/26	QAPP	Versar Engineering, Inc.	U.S. Army Corps of Engrs.	Reports/Studies	15
	23	86/11/00	Summary of Analytical Results from Resampling Wells near Hides I and Hides II, Gary, Indiana in July - August 1986	Richard Boice-U.S.EPA, RPM		Reports/Studies	16
	433	87/05/00	RI/FS Phase II Supplement Work Plan and Associated Plans	Versar Engineering, Inc.	U.S. Army Dist. Omaha COE	Reports/Studies	17

U.S. EPA ADMINISTRATIVE RECORD INDEX

UPDATE #1

NINTH AVENUE DUMP SITE

GARY, INDIANA

06/17/92

DOCU	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	00/00/00	USEPA		Ninth Avenue Dump Proposed Plan	10
2	08/26/80	Nagel, D., USEPA, et al.	Martell, S., et al.	Complaint in the case of United States v. Steve Martell, et al., 0680 473, U.S.D.C., No. Dist. of Indiana Hammond Div.	8
3	07/29/82	Knox, ISBH	Kush, D., USEPA	Hazard Ranking System Scoring Package	26
4	02/02/83	Mueller, D., Ecol. & Envir.	USEPA file	Preliminary Assessment	5
5	08/08/83	Ferenchic, L., Ecol. & Envir.	USEPA	Site Inspection Report	14
6	08/06/84	Moody, J.		Order for entry of Partial Consent Decree be entered as of Dec.7, 1983 and that it be further that defendants Irvin Clark, Donald Clark...Dorothy Clark be dismissed with prejudice with Partial Consent Decree attached...	21
7	03/22/85	Bosco, R., USEPA	Niedergang, D., USEPA	Recommendation that the site be redesignated as a category 1 site d an explanation of why acceptable implementation of an RI/FS and removal actions is very unlikely to be obtained through responsible party actions	2
8	05/31/85	Ayers, W. Jr., ISDH	Adamus, V., USEPA	Letter requesting reclassification of the Ninth Avenue Dump Site	2
9	09/06/86	U.S.Army Corps of Engineers-Omaha	USEPA	Management Plan Ninth Avenue Dump Site	16
10	04/30/87	Stoner, B., U.S. Dept. of Justice	Tighe, A., Catarinco & Crooks	Letter reflecting the status of Steve Martell's performance of the requirments of the Partial Consent Judgement and his obligations under the same	2
11	06/24/87	Fabiaski, L., ATSDR	Hiltner, A., USEPA	Review of residential soil samples dated 6/12/87	1

DOCO	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
12	09/10/87	Kanow, S., USEPA	Acambus, V., USEPA	ACTION MEMORANDUM: Removal Request for the Nute Avenue Dump Site, Gary, Indiana	7
13	09/24/87	Welch, O.	Wiltner, A., USEPA	Letter to resident enclosing the results of well water tests from his home	2
14	10/05/87	Iverson, D., Harzyn Engineering	Wade, J., U.S.Army COE	Notification that a prompt remedial action appears necessary	2
15	12/00/87	Geosciences and ERM	Midco Trustees	Remedial Investigation Of Midwest Solvent Recovery, Inc. (Midco I) Gary, Indiana: Public Comment Draft - Appendices J Through P	293
16	12/00/87	Geosciences and ERM	Midco Trustees	Remedial Investigation Of Midwest Solvent Recovery, Inc. (Midco I) Gary, Indiana: Public Comment Draft - Appendices G Through I	324
17	12/00/87	Geosciences and ERM	Midco Trustees	Remedial Investigation Of Midwest Solvent Recovery, Inc. (Midco I) Gary, Indiana: Public Comment Draft - Appendices A Through F	464
18	12/00/87	Geosciences and ERM	Midco Trustees	Remedial Investigation Of Midwest Solvent Recovery, Inc. (Midco I) Gary, Indiana Public Comment Draft	448
19	12/16/87	Iverson, D., Harzyn Engineering	Zebrowski, S., Corps of Eng.	Request for Applicable, or Relevant and Appropriate Requirements (ARAR)	166
20	00/00/88	Senior, A. & Wiltner, A., USEPA		Fact Sheet	2
21	01/00/88	Harzyn Engineering	USEPA	Addendum No. 2 Quality Assurance Project Plan (QAPP)	171
22	01/13/88	Aten, R., Geosciences Research	Ball, R., ERM North Central	Technical Memorandum: Ground water use inventory northeast of Midco I	374
23	03/07/88	USEPA		List of individuals receiving notice/information requests	21
24	03/09/88	Gado, M., USEPA		General Notice Letter And Information Request	5
25	03/13/88	Asbury, G., Harzyn Engineering.	Zebrowski, S., Corps of Eng.	Work Plan for Laboratory Treatability Testing Plan	330
26	03/29/88	Wiltner, A., USEPA		Record of phone conv. with Arthur Carter of IDEM who added to the list of Indiana ARARs the VOC Emissions Regulations 1329 IAC, 8-1.1-2 and 8-1.1-6 to be added to the list - provided in the 2/26/88 letter	1

DOC#	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
27	04/26/88	Hiltner, A., USEPA	Kinley, N.	Letter to resident enclosing results of analyses of soil samples taken from her yard	8
28	05/13/88	Asbury, B., Warzyn Engineering	Hiltner, A., USEPA	Work Plan for Materials Compatibility Testing	67
29	06/00/88	Warzyn Engineering Inc.	COE for the USEPA	Phased Review Draft Phased Feasibility Study Ninth Avenue Dump RI/FS, Gary, Indiana	149
30	06/00/88	USEPA		Proposed Plan	9
31	06/00/88	Warzyn Engineering, Inc.	COE for the USEPA	Public Review Draft Remedial Investigation Report Ninth Avenue Dump RI/FS Gary, Indiana: Volume 2 Tables And Figures	235
32	06/00/88	Warzyn Engineering, Inc.	COE for the USEPA	Public Review Draft Remedial Investigation Report Ninth Avenue Dump RI/FS Gary, Indiana: Volume 1	306
33	06/00/88	Warzyn Engineering, Inc.	COE for the USEPA	Public Review Draft Remedial Investigation Report Ninth Avenue Dump RI/FS Gary, Indiana: Volume 3 Appendix Part 1	366
34	06/00/88	Warzyn Engineering, Inc.	COE for the USEPA	Public Review Draft Remedial Investigation Report Ninth Avenue RI/FS Gary, Indiana: Volume 4 Appendix Part 2	565

UPDATE
ADMINISTRATIVE RECORD INDEX
NINTH AVENUE DUMP SITE
GARY, INDIANA

FILE/FRAME	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOCUMENT NUMBER
	12	88/08/03	Letter stating the PRP Group's position with respect to any proposed actions that the USEPA may adopt. Letter also encloses a report prepared by Environmental Resources Management-North Central, Inc. for the PRP's entitled "Analysis Of Public Review Draft Phased Feasibility Study Hydrocarbon Layer Operable Unit 9th Avenue Dump RI/FS Gary, Indiana"	Arthur E. Stessinger-PRP Group	Allison Hiltner-USEPA	Correspondence	1
	4	88/09/16	Amendments to the Public Meeting Transcript and a memo from the Court Reporter regarding these corrections.	Marti Shanes-Black & Veatch	Art Gasior-USEPA	Correspondence	2
	3	88/08/09	Meeting to discuss PRP concerns regarding the Ninth Avenue Dump Phased Feasibility Study and Proposed Plan (along with attendance list to the meeting held on 7/28/88).	Allison Hiltner-USEPA	File	Memorandum	3
	81	88/07/13	Transcript for the Ninth Avenue Dump Public Meeting held on 7/13/88.	Carol Fleros-Court Reporter		Other	4
	10	87/10/16	On-Scene Coordinators Letter Report CERCLA Removal Action 9th Avenue Dump - Gary, Indiana.	Verneta Simon-USEPA		Reports/Studies	5
	345	88/01/00	Endangerment Assessment Ninth Avenue Dump - Gary, Indiana. Supplement Toxicity Profiles.	Harzyn Engineering Inc.	USEPA&Corps of Engineers	Reports/Studies	6
	42	88/09/20	Record of Decision	Valdas Adamkus-USEPA		Reports/Studies	7

No. 1
3/89

UPDATE
ADMINISTRATIVE RECORD INDEX
NINTH AVENUE DUMP SITE
GARY, INDIANA

FICHE/FRAME	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOCNUMBER
	2	87/08/07	Request that the Indiana Dept. of Highways (IDOH) respond to this letter informing them that their facility is the only probable source for sodium and chloride contamination at the MIDCO I and Ninth Ave. Dump sites. Response should outline the IDOH's proposed plan for remediating the salt contamination.	Valdas Adamkus-USEPA	John Isenbarger-IDOH	Correspondence	1
	2	87/12/16	Outline of the Indiana Dept. of Highways' Consultant's proposed activities regarding MIDCO I and Ninth Avenue Dump.	D.W. Lucas-IN Dept. of Highways	Richard Boice-USEPA	Correspondence	2
	4	88/06/10	Notice that information indicates that the release of hazardous substances, pollutants and contaminants at the MIDCO I and Ninth Ave. Dump Site can be attributed to the Indiana Dept. of Highways (IDOH) facility. This letter is to notify IDOH of potential liability with respect to these sites.	Mary Gade-USEPA	William T. Hoy-IDOH	Correspondence	3
	3	89/01/13	Letter of Intent submitted in accordance with par.XXI of the Unilateral Sec.106 Order. Listed is the composition of the PRP Committee.	Susan Pliedor-Wildman,Harrold,et al	Edward Kowalski-USEPA	Correspondence	4
	1	89/03/16	Additional cost	Allison Hiltner-USEPA	Ninth Avenue Dump	Memorandum	5

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ADMINISTRATIVE RECORD INDEX
NINTH AVENUE DUMP SITE
GARY, INDIANA

F/FRAME	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOCNUMBER
			calculations for the Ninth Avenue Dump Feasibility Study.		File		
	107	88/12/07	Administrative Order Pursuant To Section 106 of CERCLA.	Basil Constantelos-USEPA	Respondents	Pleadings/Orders	6
	15	88/04/00	Scope of Work for The Ninth Avenue Dump Superfund Site Ground Water Treatability Study.	U.S.Army Corps of Engineers		Reports/Studies	7
	14	88/08/15	Scope of Work for The Ninth Avenue Dump Superfund Site Slurry Trench Materials/ Groundwater Compatibility.	U.S.Army Corps of Engineers		Reports/Studies	8
	232	89/01/00	Public Review Draft Full Site Remedy Feasibility Study	Warzyn Engineering	USCOE & USEPA	Reports/Studies	9
	20	89/01/10	Health Assessment	ATSDR	USEPA	Reports/Studies	10
	21	89/03/00	Proposed Plan Ninth Avenue Dump Gary, Indiana.	USEPA		Reports/Studies	11

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ADMINISTRATIVE RECORD INDEX
NINTH AVENUE DUMP SITE
GARY, INDIANA

FICHE/FRAME	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOCNUMBER
	2	88/08/23	Comments on the USEPA's proposed first phase Feasibility Study submitted on behalf of a group of PRP's.	Arthur Slesinger-Ninth Ave.PRPGroup	Allison Hiltner-USEPA	Correspondence	1
	3	88/12/28	Comments on the RSE as a summary of the 12/21/88 conference call.	Roy Ball - ERM-North Central	Allison Hiltner-USEPA	Correspondence	2
	4	88/12/27	"Preliminary and partial comments" regarding the unilateral Administrative Order.	Jeffrey Feisel-Steering Committee	Ed Kowalski-USEPA	Correspondence	3
	6	89/01/12	Response to the Steering Committee's comments of 12/27/88, a 12/22/88 letter to the USEPA from the Committee's technical consultants, as well as to those of individual PRP's who incorporated the Committee's comments by reference.	Ed Kowalski-USEPA	Jeffrey Feisel-Sequa Corp	Correspondence	4
	5	89/04/05	Comment on the Recommended Remedial Alternative.	A.Novak-Hammond Dept. of Env. Mgmt.	Allison Hiltner-USEPA	Correspondence	5
	3	89/04/18	Comments on the Proposed Remedy for the site.	A.Slesinger- Morton Thiokol, Inc.	Hiltner & Kowalski-USEPA	Correspondence	6
	15	89/04/19	Comments on behalf of the Steering Committee for the Second Phase Remedy for the site. Attached to the letter is the report titled "Comments Of The Ninth Avenue Site Steering Committee On The Public Review Draft Full Site Remedy Feasibility Study Ninth Avenue Dump Superfund Site Gary, Indiana" dated 4/19/89	Carol Forge-Seyfarth,Shaw, et al.	Allison Hiltner-USEPA	Correspondence	7

UPDATE
ADMINISTRATIVE RECORD INDEX
NINTH AVENUE DUMP SITE
GARY, INDIANA

FICHE/FRAME	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOCNUMBER
			and authored by ERM-North Central.				
	3	09/28/89	"Response to the Steering Committee's 8/25/89 offer for performance of a portion of the final RD/RA. The USEPA will consider further certain aspects of the offer but states that the offer falls considerably short of a "good faith proposal".	Nora Niedergang-USEPA	P.Mehring-Gardner,Carton,	Correspondence	8
	16	08/00/89	"Analysis Of Public Review Draft Phased Feasibility Study Hydrocarbon Layer Operable Unit 9th Avenue Dump RI/FS Gary, Indiana.	ERM - North Central		Reports/Studies	9
	22	09/[illegible]	Offer to perform the full site remedy submitted on behalf of the PRP Steering Committee.	Judy Longfield-ERM-North Central	Allison Hiltner-USEPA	Reports/Studies	10
	70	09/13/89	Transcript from Ninth Avenue Dump Public Meeting.			Transcript	11
	16	09/20/89	Partial comments from a public meeting.			Transcript	12

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	3	89/05/10	Comments on the "Good Faith Offer" submitted by the Steering Committee on 4/25/89 and the conclusion that the offer falls considerably short of a "Good Faith Offer" under sec. 122 (e) (3) of SARA and as defined in the 3/17/89 Special Notice Letter.	Nora Niedergang-USEPA	P.Nehring-Gardner,Carton,	Correspondence	1
	101	89/05/26	Several alternative proposals for settlement in response to the EPA's Special Notice Letter of 3/17/89. This is called a "Good Faith Offer".	Lawrence Levine-Latham & Watkins	Edward Kowalski-USEPA	Correspondence	2
	3	89/06/13	The USEPA will not extend the moratorium on commencement of the remedial action work an additional sixty calander days as the "good faith offer" submitted by the recipients of this letter did not meet the requirements set forth in the USEPA "Special Notice Letter", specifically the the requirement of a statement of willingness to conduct or finance the remedial design/remedial action (RD/RA).	Mary Gade-USEPA	L.Levine-Latham & Watkins	Correspondence	3
	3	89/07/31	Technical Response to the "Good Faith Offer" recieved from the Ninth Avenue Dump Steering Committee May 26, 1989.	Allison Hiltner-USEPA	Ninth Avenue Dump File	Memorandum	4
	95	00/00/00	"A Survey For Contaminants In Biota Near The Midco I, Midco	USDOI-Fish & Wildlife Service		Reports/Studies	5

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		9	00/00/00	Addendum: Public Review Draft Remedial Investigation/Feasibility Study.	USEPA		Reports/Studies	6
		49	89/00/00	"Preliminary Analysis Of The Shallow Ground-Water System In The Vicinity Of The Grand Calumet River/Indiana Harbor Canal, Northwestern Indiana."	U.S.Geological Survey	USEPA	Reports/Studies	7
		79	89/06/30	Record Of Decision	Valdas Adamkus-USEPA		Reports/Studies	5

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(Index and Documents)

for the

NINTH AVENUE DUMP SITE

UPDATE NO. 6

GARY, INDIANA

OCTOBER 1991

United States Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, IL 60604

INTRODUCTION

These documents comprise the Administrative Record for the Ninth Avenue Dump Superfund Site - Update No. 6. An index of the documents in the Administrative Record is located at the front of the first volume.

The Administrative Record is also available for public review at EPA's Region V Office, 230 South Dearborn, Chicago, Illinois, 60604. Questions concerning the Administrative Record should be addressed to the EPA Administrative Record Coordinator.

The Administrative Record is required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA).

Ninth Avenue Dump Superfund Site
Remedial Action - Update No. 6
Administrative Record

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	14	91/03/05	Letter re: Unresolved matters of critical importance which may jeopardize the Agency's completion of the ROD with documents relating to the matters attached	L. Levine-Latham & Watkins	A. Hiltner-U.S.EPA, RPM	Correspondence	1
	4	91/06/03	Letter re: Discharge of excess storm water	A. Hiltner-U.S.EPA, RPM	L.Levine-Latham & Watkins	Correspondence	2
	3	91/06/07	Letter re: Ninth Avenue Dump Program Resolution of the Southeast Corner Issue	R. Knight-Fluor Daniel	A. Hiltner-U.S.EPA, RPM	Correspondence	3
	6	91/07/03	Letter re: Slurry Wall Realignment	A. Hiltner-U.S.EPA, RPM	P.Campbell-IT Corporation	Correspondence	4
	7	91/09/18	Letter re: Ninth Avenue Dump Program Southeast Corner Investigation Supplemental Groundwater Sampling Results	T. Maley-Fluor Daniel	A. Hiltner-U.S.EPA, RPM	Correspondence	5
	9	91/10/01	Letter re: Ninth Avenue Dump Program Southeast Corner Investigation Groundwater Sampling Results - Round 2	T. Maley-Fluor Daniel	A. Hiltner-U.S.EPA, RPM	Correspondence	6
	4	89/07/00	Fact Sheet re: Ninth Avenue Dump Record of Decision Signed First Phase Cleanup Planned	U.S.EPA-Region V		Fact Sheets	7

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	16	89/08/19	Ninth Avenue Site Sampling and Analysis Plan Part I - Field Sampling Plan Revision: 3	Environmental Resources Management - North Central, Inc.	Ninth Avenue Respondents	Reports/Studies	9
	25	89/12/22	Ninth Avenue Site Sampling and Analysis Plan Addendum Revision: 2	Environmental Resources Management-North Central, Inc.	Ninth Avenue Respondents	Reports/Studies	10
	79	90/01/15	Remedial Work Plan Interim Remedial Response Action Hydrocarbon Layer Operable Unit Ninth Avenue Site Revision: 5	Environmental Resources Management-North Central, Inc.	Ninth Avenue Respondents	Reports/Studies	11
	81	90/01/19	Sampling and Analysis Plan Part II Quality Assurance Project Plan Ninth Avenue Site Revision: 5	Environmental Resources Management-North Central, Inc.	Ninth Avenue Respondents	Reports/Studies	12
	244	90/03/00	Treatability of Ninth Avenue Superfund Site Ground Water	Environmental Laboratory U.S. Army Engineer Waterways Experiment Station	U.S. Army Engineer Dist.	Reports/Studies	13
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	165	90/05/00	Compatibility of Ninth Avenue Superfund Site Ground Water with Two Soil-Bentonite Slurry Wall Backfill Mixtures	Environmental Laboratory U.S. Army Engineer Waterways Experiment Station	U.S. Army Engineer Dist.	Reports/Studies	16
	38	90/07/12	Data Validation Report for Round Two Ground-Water Sampling	Groundwater Technology, Inc.	Ninth Ave Task. Committee	Reports/Studies	17
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	119	91/03/00	Southwest Corner Investigation Slurry Wall Alignment Interim Site Remedy Ninth Avenue Site	IT Corporation	Ninth Avenue Respondents	Reports/Studies	19
	662	91/06/00	Final (100 Percent) Design Report Interim Site Remedy Oil Recovery/Ground Water Treatment Ninth Avenue Site Volume 1 of 3	IT Corporation	Ninth Avenue Respondents	Reports/Studies	20
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90/07/12	Data Validation Report for Round Two Groundwater Sampling Appendix A - Laboratory Data Report Sheets	Groundwater Technology, Inc.	Birch Ave Tech. Committee	Sampling/Data
91/03/00	Southeast Corner Investigation Slurry Wall Alignment Interim Site Remedy Birch Avenue Site Appendix F - Analytical Data	IT Corporation	Birch Avenue Responsibles	Sampling/Data
91/09/18	Birch Avenue Dump Site Supplemental Groundwater Sampling and Analytical Results - Attachment 1 Calculations & Sketches	Fluor Daniel, Inc.	A. Bittner-U.S.EPA, RPO	Sampling/Data
91/09/26	Birch Avenue Dump Site Groundwater Sampling & Analytical Results - Round 2	Fluor Daniel, Inc.	A. Bittner-U.S.EPA, RPO	Sampling/Data

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14	[illegible]	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Technical Memorandum: Quarterly Groundwater Monitoring Report, Round 1 Results (April 1992) [illegible]	[illegible]
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16	[illegible]	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Study of Alternative Technologies and Final Site Remedy Recommendations: Volume 2 (Attachments D-F)	[illegible]
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19	[illegible]	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Interim Site Remedy, Remedial Action Report	[illegible]
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21	[illegible]	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Technical Memorandum: Quarterly Groundwater Monitoring Report, Round 2 Results (July 1992) Volume 2 (Appendices F-[illegible])	[illegible]
22	[illegible]	Canonie Environmental	U.S. EPA	Final Report: Construction Quality Control, Interim Site Remedy, Slurry Wall Construction, Volume 1 (Report and Appendices A-G) & Cover Letter	[illegible]
23	[illegible]	Canonie Environmental	U.S. EPA	Final Report: Construction Quality Control, Interim Site Remedy, Slurry Wall Construction, Volume 2 (Appendix H)	[illegible]
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25	[illegible]	Fluor Daniel Environmental Services, Inc.	U.S. EPA	Technical Memorandum: Quarterly Groundwater Monitoring Report, Round 3 Results (October 1992) Volume 2 (Appendices F-H)	[illegible]

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4	04/19/94	Feeney, J.	Valetkevitch, M., U.S. EPA	Letter re: Public Comment on the Proposed Plan for the ROD Amendment	1
5	04/29/94	Owen, P., Boles-Owen Stenographic Service	U.S. EPA	Transcript of April 13, 1994 Hearing on the Proposed Plan for the ROD Amendment	123
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7	00/00/00	Cargill, Inc.	U.S. EPA	Correspondence, Documents, and/or Responses to 104(e) Requests	249
8	00/00/00	Chamberlain Manufacturing Corporation	U.S. EPA	Correspondence, Documents, and/or Responses to 104(e) Requests	2
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17	00/00/00	Dreeblan Paint Company	U.S. EPA	Correspondence, Documents, and/or Responses to 104(e) Requests	9
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19	00/00/00	E.I. du Pont de Nemours and Company	U.S. EPA	Correspondence, Documents, and/or Responses to 104(e) Requests	21
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41	01/06/76	Baker, Fennell & Associates, Inc.	U.S. EPA	November 21-22, 1988 Deposition of Steve Martell: Exhibit #2: January 6, 1976 Agreement Between Liquid Engineering Corporation, U.S. Scrap Corporation, and Steve Martell	9
42	01/25/88	Baker, Fennell & Associates, Inc.	U.S. EPA	Transcript: January 25, 1988 Deposition of Leonard N. Spira	32
43	03/23/88	Fissinger & Knight, Inc.	U.S. EPA	Transcript: March 23, 1988 Deposition of Earl Jack Kleeser	131
44	05/24/88	Gus G. Paloian Reporting Services	U.S. EPA	Transcript: May 24, 1988 Unsworn Statement of Steve Martell	235
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48	09/01/88	Fissinger & Knight, Inc.	U.S. EPA	Transcript: September 1, 1988 Deposition of Ronald MacFarlane	70
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50	09/21/88	Fennell, K., Baker, Fennell & Associates, Inc.	Tyree, Y., Chicago Resident	Transcript: September 21, 1988 Discovery Deposition of Yolanda Tyree w/ October 12, 1988 Forwarding Letter	106
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52	11/28/88	Fennell, K., Baker, Fennell & Associates, Inc.	Tighe, A., Stephenson, Tighe & Streicker, Ltd.	Letter Forwarding Transcript of November 21-22, 1988 Discovery Deposition of Steve Martell	1
53	12/05/88	Kowalski, E., U.S. EPA	File	Memorandum re: Relisting Companies as PRPs	2
54	12/06/88	Gade, M., U.S. EPA	Recipients	Letter re: Relisting to PRP List of Those Companies Notified by U.S. EPA Letter of August 9, 1988 of Removal from PRP List w/Attached List of Recipients	3
55	12/06/88	Kowalski, E., U.S. EPA	File	Memorandum re: October 21, 1988 Delisting Meeting with PRP Steering Committee	4

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NINTH AVENUE DUMP SITE
GARY, INDIANA
PRIVILEGED DOCUMENTS WITHHELD FROM THE PUBLIC PORTION OF THE ADMINISTRATIVE RECORD
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1	10/15/86	PRC Environmental Management, Inc.	U.S. EPA	Martell Sites Responsible Party Search: Draft Revised Report [Amendment #6] (ENFORCEMENT CONFIDENTIAL)	48
2	01/06/87	PRC Environmental Management, Inc.	U.S. EPA	Martell Sites Title Search for 9th Avenue Dump: Draft Letter Report (ENFORCEMENT CONFIDENTIAL)	55
3	01/13/87	PRC Environmental Management, Inc.	U.S. EPA	Martell Sites File Review and Interviews with Metropolitan Sanitary District of Greater Chicago Employees: Draft Letter Report (ENFORCEMENT CONFIDENTIAL)	10
4	05/14/87	PRC Environmental Management, Inc.	U.S. EPA	Martell Sites Bibliographic Review: Draft Letter Report (ENFORCEMENT CONFIDENTIAL)	33
5	01/12/88	Baker, Fennell & Associates, Inc.	U.S. EPA	Transcript: January 12,-1988 CONFIDENTIAL INFORMANT Deposition	55

STATEMENT OF WORK
FOR
REMEDIAL DESIGN AND REMEDIAL ACTION
AT
NINTH AVENUE DUMP SITE
GARY (LAKE COUNTY), INDIANA

1.0 PURPOSE

The purpose of this Statement of Work (SOW) is to specify the requirements for the implementation of the remedial action set forth in the Record of Decision Amendment (ROD Amendment), which was signed by the Regional Administrator of Region V of the U.S. Environmental Protection Agency (USEPA) on September 13, 1994, for the final site remedy (FSR) (second operable unit) at the Ninth Avenue Dump site (Site). The Respondents shall follow the ROD Amendment, this SOW, the approved Remedial Design and Remedial Action Work Plan, if prepared, U.S. EPA Superfund Remedial Design and Remedial Action Guidance, and any additional guidance provided by USEPA in submitting deliverables for designing and implementing the remedial action at the Site.

2.0 DESCRIPTION OF THE REMEDIAL ACTION/PERFORMANCE STANDARDS

Respondents shall design and implement the remedial action to meet the performance standards and specifications set forth in the ROD Amendment, and to the extent relevant and not otherwise amended or superseded by the ROD Amendment, in the Explanation of Significant Differences dated October, 1991, the Record of Decision dated June 30, 1989, the Record of Decision dated September 20, 1988, and this SOW. Performance standards shall include cleanup standards, standards of control, quality criteria and other substantive requirements, criteria or limitations including all applicable or relevant and appropriate requirements (ARARs) set forth in the ROD Amendment, and to the extent relevant and not otherwise amended or superseded by the ROD Amendment, in the Explanation of Significant Differences dated October, 1991, the Record of Decision dated June 30, 1989, the Record of Decision dated September 20, 1988, in this SOW and in the (unilateral) Administrative Order for Remedial Design and Remendial Action (UAO) to which this SOW is attached.

2.1 Overview of Amended Final Site Remedy

This remedy is for the final of two operable units for the site. The first operable unit addressed an oil layer floating on the groundwater by means of oil and groundwater extraction, oil storage, reintroduction of the groundwater, containment with a slurry wall, and management of excess surface water. The extracted groundwater was treated prior to reintroduction. This interim site remedy (ISR) was constructed in 1991 and operated throughout 1992 and 1993. On July 12, 1993 the report, Ninth Avenue Program Interim Site Remedy

Remedial Action Report, dated March 1993, was accepted as the remedial action report for the ISR; this demonstrated formal completion of the ISR remedial action. This final site remedy addresses all remaining threats at the site.

The major components of the selected remedy include:

- installation of the intermediate slurry wall, unless the USEPA determines that it is not feasible, that will separate the "surface water area" from the contaminated area (primary containment area);
- removal of debris and contaminated sediments from surface water bodies on the site that are to remain, and placement of this material under the cap;
- installation of a soil vapor extraction (SVE) system covering the portions of the primary containment area known to be contaminated (after necessary dewatering) and subsequent operation of the system to provide a performance that is appropriate and acceptable to USEPA while maintaining the water level about 10 feet below the present surface;
- disposal of the oil extracted during implementation of the first operable unit in a manner which is appropriate and acceptable to USEPA, most likely in an off-site incinerator;
- installation of a RCRA Subtitle C cap over the primary containment area, landscaping of the site, and establishment of a storm water management system which includes discharge of excess water and which is appropriate and acceptable to USEPA;
- containment or extraction and disposal, by a means which is appropriate and acceptable to USEPA, of contaminated groundwater or source(s) of groundwater contamination found outside the primary containment area;
- removing or securing any equipment which was used during implementation of the first operable unit that will not be used as part of this remedy;
- maintenance of an acceptable water level within the primary containment area and disposal of the excess water by a means which is appropriate and acceptable to USEPA;
- deed and access restrictions that prohibit use of groundwater at the site and protect the remedy; and
- operation and maintenance of the remedy, including the fence and slurry wall installed in the first operable unit, and monitoring of the site to ensure protectiveness.

2.3 Site Security and Deed Restrictions

Essentially, site security has already been established, as part of the interim site remedy (ISR) (the first operable unit). The site has been enclosed by a 6-foot chain link fence with tripled barbed wire at the top. Since the start of ISR engineering and design in 1989 and throughout the operation of the water treatment system, there has been a guard on duty 24 hours per day.

No additional perimeter site fencing is anticipated during the FSR work. Warning signs have been posted at 200-foot intervals along

the fence and at all gates. The warning signs advise that the area is hazardous due to chemicals present at the Site and that these chemicals pose a risk to public health through direct contact. A security guard is to be present 24 hours per day, 7 days per week at the existing guard post during the periods of active construction identified in this SOW. Following completion of FSR construction, the guard service may be terminated. The perimeter fence and signs shall be maintained. The additional lighting that has been provided for site security and any further lighting that is provided for this purpose is to be removed at the completion of active construction for the FSR.

By the time active construction for the FSR has been completed, Respondents shall file or shall use their best efforts to have the owners file, in the land records office of Lake County, Indiana, a notice, that has been approved by USEPA in consultation with the State of Indiana, for each piece of property upon which remedial work is done for the Site or which is part of the Site, to subsequent purchasers of the land, that hazardous substances were disposed of on the property and that USEPA makes no representation as to the appropriate use of the property, that USEPA is to be notified 60 days in advance of any transfer of the property, and that the property is subject to the Unilateral Administrative Order of which this SOW is a part. The recorded location of the Unilateral Administrative Order and any restrictions applicable to the property shall be included. Respondents shall also file or shall use their best efforts to have the owners file, in the land records office of Lake County, Indiana, a deed/use restriction, that has been approved by USEPA in consultation with the State of Indiana, for each piece of property upon which remedial work is done for the Site or which is part of the Site in order to protect public health and the environment, to insure that future use of the property will not impair or defeat any remedial measures or maintenance of the remedial measures at the property, and to prevent contact with contaminants remaining in the soils and groundwater.

2.3 Contamination at the Northeast Edge of Slurry Wall

During the installation of the ISR, a slurry wall was installed that was to surround all groundwater that contained contamination that was known to exceed target cleanup levels, which are defined in the 1989 ROD. Since the installation of this wall, the results of groundwater monitoring have indicated that groundwater along the edge of the wall in the northeast corner may have been impacted by materials from the site.

The Respondents shall conduct a field study to determine the nature and extent of this contamination so that a means for remediating the area, if it is determined that it has to be remediated, can be selected. Most likely, if remediation is necessary, either containment of the contaminated area or removal of the contaminated groundwater or removal of the source of the contamination will need to be carried out, but another solution might be used. If

remediation is determined to be necessary by USEPA, in consultation with the State, the Respondents shall carry out the remediation by means agreed upon by USEPA.

2.4 Intermediate Slurry Wall

Because analyses of surface water samples since the installation of the present slurry wall have indicated that the area covered by the surface water pond (both at the south end and along the western side) within the slurry wall may not have been significantly impacted by the disposal activities at the Site, it has been decided to explore the possibility that this area does not have to be capped and can be left as a pond and a wetland. This would be done by installing another slurry wall within the present slurry wall that would separate this area from the area containing the wastes, debris, and other contaminated materials, and this latter area would be the area that would be capped (the primary containment area). The water level in the ponded area left would be controlled in the future through discharge of water from the area under the terms of an NPDES (National Pollutant Discharge Elimination System) permit issued by the State of Indiana. The pond would be used in the stormwater management system. The water level in the pond would be controlled to prevent overtopping of the outer slurry wall during a 25-year, 24-hour storm.

The Respondents shall conduct a field study to determine if it will be feasible to install this intermediate slurry wall (ISW). The final determination will be made by USEPA. This study will determine whether the area proposed to be outside the primary containment area contains contamination below the cleanup standards stated in the 1989 FSR ROD, or through removal of contaminated material can be made to comply with these standards. The study will also examine the economics of installing this wall so that the economics can be taken into account in the decision. This field study will determine a recommended line-of-travel for the wall.

If it is decided to install the ISW, the Respondents shall design the wall. The type of wall proposed to be installed must be approved by USEPA in consultation with the State. Once the design has been approved, the Respondents shall install the wall. The Respondents shall also remove contaminated materials from any areas outside the ISW that are identified as not complying with the standards in the 1989 FSR ROD (a maximum concentration of total polycyclic aromatic hydrocarbons (PAHs) of 2400 µg/kg). These materials will be placed in the area that is to be capped.

2.5 Groundwater Level

For the installation and proper operation of the soil vapor extraction system it is necessary that the groundwater level on the Site within the slurry wall (in the primary containment area if the ISW is installed) be lowered. The Respondents shall lower this level to the level agreed upon with USEPA, expected to be in the

neighborhood of 10 feet below the original grade. A lowered water table of about this amount shall be maintained for the duration of SVE system operation.

The dewatering will be done through the discharge of treated groundwater and surface water, the discharge of which will be to the Grand Calumet River under the NPDES permit already obtained or any modification of the permit that is found to be necessary and that is approved by the State. If it is found that this dewatering cannot be done in this manner, the Respondents will work with the USEPA to determine a feasible means of carrying out the necessary dewatering.

The groundwater will be extracted by means of the existing extraction wells and/or other temporary wells installed for this purpose. The groundwater will be treated to meet the conditions set by the NPDES permit or a modification thereof. It is expected that the present groundwater and surface water treatment systems will be used. However, if it is found that additional treatment is needed to meet the discharge conditions, other means of treatment can be used in place of or in addition to the systems already installed. A determination will be made if the wastes generated by the treatment of groundwater are hazardous by characteristic. If they are hazardous, they shall be disposed of in accordance with the RCRA (Resource Conservation and Recovery Act of 1976, 42 U.S.C. § 6901, et seq., as amended) requirements. If they are not hazardous, they will be placed under the cap, if generated before the cap is installed, or disposed of in another manner acceptable to the USEPA.

Following completion of the operation of the SVE system, Respondents shall maintain an inward hydraulic gradient for the post-construction maintenance period inside the area contained by the existing slurry wall and the ISW, if installed, or inside the existing slurry wall if the ISW is not installed. Water generated through this maintenance pumping will be managed either: (1) in the same way as the water extracted during dewatering, or (2) via off-site treatment and/or disposal at an appropriate facility which is acceptable to USEPA.

2.6 Soil Vapor Extraction System

Soil vapor extraction (SVE) is a treatment system used to remove volatile organic compounds (VOCs) from soils. SVE extracts air from the soil to create an air pressure gradient. Such extraction is sometimes combined with air injection (ambient air or heated air), but air entry may also be passive. For the most effective VOC removal, a low-permeability cover is necessary. By causing fresh air to be introduced into the soils, SVE also generally enhances aerobic biodegradation of organic contaminants present in the soils and fill.

SVE will be carried out using vacuum pumps connected by pipes to a series of extraction wells. Air will enter through a series of air injection wells, either forced in with blowers or allowed to be

drawn in by the pressure gradients created. The air pressure gradient created between the extraction and injection wells will draw VOC-contaminated air from the soil pores. Air emissions will be monitored for VOCs during the SVE pilot scale trial (see below). The results of this study will be used, along with air dispersion modeling techniques, to predict emissions from the full-scale SVE system and to predict the extent of air pollution control that will be necessary to meet a 1×10^{-6} cumulative carcinogenic risk or a hazard index of 1 at or beyond any site boundary, due to the emissions from the Site, and to limit the emissions to those allowable under any Federal or State requirements. If this prediction shows that control equipment is necessary to meet these criteria, such equipment shall be installed and operated as long as it is needed. During the first year of full-scale SVE system operation, the treatment system exhaust shall be periodically monitored for VOCs and, if necessary, other substances that it has been shown might contribute significantly to the risk produced by the SVE system. If, after the first year of operation, monitoring results show that air emissions from the Site do not cause contaminants in the air to exceed the 1×10^{-6} carcinogenic risk or a hazard index of 1 at or beyond any site boundary, as calculated using air dispersion modeling, or to exceed the concentrations allowable under Federal and State requirements, monitoring may be discontinued or modified with the approval of USEPA in consultation with the State.

An SVE pilot scale trial shall be conducted during the design period in accordance with an approved RD/RA Work Plan schedule to evaluate the potential of the SVE system and finalize design parameters. The Respondents shall design the SVE system to remove air-strippable organic contaminants from the unsaturated soils based on results of the pilot trial. Currently available data indicate that the SVE system may consist of maybe 20 extraction wells located within the area of highest VOC soil concentrations, maybe a similar number of injection wells located around the perimeter of the high-concentration area, and one injection well located within the high-concentration area. All extraction and injection wells shall be placed within the primary containment area. The extraction wells are anticipated to be placed primarily within the fill, which is expected to have a higher permeability than the native soil. Locations of these wells will be finalized in the design period, and it may be that the number of injection and extraction wells might differ significantly from the number stated above.

Conceptually, a constant air flow rate of 1.0 scfm is anticipated to be required for each injection and extraction well for a total flow through the SVE system of about 20 scfm. The system shall be designed and operated to extract a volume of air anticipated to be within the range of 2 pore volumes per year to 35 pore volumes per year, but higher flows may be used if they are found to be advantageous. Any condensate from the SVE system shall be managed in the same way that extracted groundwater is managed, as described in Section 2.5, or it can be placed back under the cap.

The expected duration of operation of the SVE system will be estimated during the pilot scale trial and evaluated through monitoring of the operating system. It is expected that operation of the SVE system will occur in three phases. Phase I operation will include start-up and operation of the system using an air pollution control device for removing contaminants from the air being extracted from the landfill, if one is needed. This device shall reduce the air contaminants in the extracted gas stream so that the exhausted gas meets the requirements stated above. During Phase I operation, the initial mass emission rate will be established. This initial rate will be defined as the emission rate measured after the extraction of one pore volume has been achieved.

Phase II operation will begin when it is determined that an air pollution control device is no longer needed; if an air pollution control device is not needed in Phase I, these two phases will be combined. Determination that the air pollution control device is no longer needed will be based on the concentrations in the gas being extracted from the landfill prior to treatment. Air dispersion modeling will be used to determine the fenceline concentrations. Any other applicable Federal or State requirements shall also be met. Phase II shall continue until an approximately 90% reduction in the initial mass emission rate has been achieved. If there is still an appreciable aerobic degradation rate, as determined from the concentrations of methane, carbon dioxide, and/or oxygen in the exhaust gas, the Respondents must obtain U.S. EPA's permission, in consultation with the State, before discontinuing Phase II operation.

Phase III operation will consist of a passive system which will also prevent pressure under the cap from causing a problem. The exhaust blower will be removed and the exhaust riser pipes will be fitted with wind driven turbine ventilators to extract soil gas. The system will then continue to operate in this manner for a period of thirty years, for all three phases, unless annual monitoring of the gas in the risers shows that the emission requirements are not being met; this annual monitoring shall be continued for three years to determine that this type of operation will be satisfactory, after which time this monitoring may be discontinued.

2.7 Cap

The cap shall be placed over the approximately 9.5 acres of the Site within the area bounded by the ISW, if it is constructed, and the existing slurry wall, the area designated the primary containment area. If the ISW is not constructed, the cap shall be placed over the area within the existing slurry wall (approximately 17 acres). The cap shall be equivalent to standards for a RCRA cap under Subtitle C by providing long-term minimization of infiltration, minimizing the need for maintenance, promoting drainage, and minimizing erosion.

The conceptual design for the cap to be installed by Respondents pursuant to this SOW will be consistent with current USEPA guidance on RCRA caps for use at hazardous waste sites (Technical Guidance Document EPA/530-SW-89-047, July 1989, *Final Covers on Hazardous Waste Landfills and Surface Impoundments* and Seminar Publication EPA/625/4-91/025, May 1991, *Design and Construction of RCRA/CERCLA Final Covers*). Guidance and the FSR ROD and the ROD amendment specify the use of a multi-layered composite cap involving both natural low permeability soils and geosynthetic materials such as high density polyethylene (HDPE) geomembranes. The cap is expected to include the following layers, or will be the equivalent of this: 1) two-foot layer of vegetative soil; 2) geotextile filter fabric; 3) one-foot layer of soil or a layer of geosynthetic material for drainage; 4) forty-mil HDPE geomembrane; and 5) two-foot layer of compacted clay.

If the ISW is installed as planned, there will be a stormwater runoff retention basin of up to 8 acres at the southern end and along the western side of the Site. Stormwater will flow into this retention basin. If the ISW is not installed, the cap will be designed and constructed so that precipitation will not collect in the capped area, the runoff will not adversely impact adjoining property, and the runoff will be managed in conformance with all applicable requirements.

2.8 Control of Air Emissions

At all times during the performance of the remedial design and the remedial action, Respondents shall ensure that air emissions from the materials at the Site do not exceed a cumulative carcinogenic risk of 1×10^{-5} or a hazard index of 1 at or beyond any site boundary (except see the requirement for the operation of the SVE system in Section 2.6), using risk calculation methods set forth in USEPA's *Risk Assessment Guidance for Superfund* (RAGS). In addition, the air emissions shall not exceed those allowed by any Federal, State, or local regulations. If air emissions do exceed these levels, the Respondents shall immediately take the necessary corrective action to reduce the emissions to less than the levels allowed. Residuals from air emissions control processes shall be treated and disposed of in accordance with applicable regulations.

2.9 Groundwater Monitoring

The Respondents shall implement a groundwater monitoring program that will be capable of detecting changes in the concentrations of contaminants in the vicinity of the existing slurry wall. The monitoring program is also to provide information identified to be needed for the five-year reviews. The presently installed monitoring wells are expected to meet these requirements, but monitoring under the cap will not be necessary. Each time the groundwater monitoring wells are sampled, the elevations of the water in the wells must be measured.

The primary purpose of the groundwater monitoring program will be to determine that the groundwater outside the existing slurry wall meets the target cleanup levels (TCLs) described in the 1989 ROD. These TCLs are MCLs or 1 x 10^{-5} cumulative carcinogenic risk, whichever is more stringent, for carcinogens and a hazard index of 1 for noncarcinogens, but these do not apply to substances identified to be part of the background concentrations. The elevations of water in the monitoring wells and piezometers that have been installed outside the slurry wall and monitoring wells and piezometers installed or existing in the area to be capped will be used to determine that the proper water gradient is being maintained across the slurry wall.

The monitoring program developed and implemented shall be one that is acceptable to USEPA in consultation with the State. Any modifications of the program shall also be acceptable to USEPA in consultation with the State.

2.10 Surface Water

Any surface water areas that remain within the existing slurry wall following the installation of the cap must also be periodically monitored. The primary purpose of this monitoring will be to determine that this water can continue to remain available to wildlife. Some of this evaluation will be done as part of the five-year review, but the evaluation will also be looked at when needed. Sediments in the areas containing these surface waters may also require periodic monitoring, particularly when conditions exist that indicate that there might have been changes in the concentrations of contaminants in the sediments (for example, increases in concentrations of contaminants in the surface water or visual observations of changes that might indicate increased contamination). The discharge of this water will also have to be monitored, as required, to determine that it satisfies the requirements of the NPDES permit issued for its discharge.

2.11 Operation and Maintenance

During the post-construction maintenance period, the Respondents shall provide all necessary maintenance for the remedial components. The Respondents shall restrict access and provide any necessary security to ensure that the integrity of the containment system is not compromised and there is no interference with the operation of the SVE system and the maintenance of the desired surface water level. Other aspects of operation and maintenance are discussed in some of the previous sections.

3.0 SCOPE OF THE REMEDIAL ACTION

Respondents shall design, construct, operate, maintain, and monitor the remedial action for the Ninth Avenue Dump site by performing each of the tasks described below. All plans and other documents

submitted to USEPA pursuant to the UAO and this SOW shall be governed by the approval procedures of the UAO.

3.1 Task 1: RD/RA Work Plan Development

Respondents shall prepare and submit to USEPA and the State an RD/RA Work Plan describing the overall management strategy for performing the design, construction, operation, maintenance, and monitoring of the final site remedy in accordance with this SOW. The plan shall describe the responsibility and authority of the organization and personnel conducting the remedial action. The RD/RA Work Plan shall also include a description of the qualifications of the key personnel directing the work, including contractor personnel when known.

The investigation plans, quality assurance project plan, and sampling plan already approved by USEPA and the health and safety plan already submitted to USEPA for the construction and operation of the work of the remedial action that has already been carried out shall be incorporated into the RD/RA Work Plan as appropriate. Where additional information in these areas is needed because the existing plans do not adequately cover the work to be done, supplemental plans shall be provided. Pre-design studies, site access, including access for monitoring and maintaining the site and for operating any process equipment that is installed as part of the remedial action, deed restrictions and other institutional controls, permits and approvals, and consistency with future land use will also be addressed in the RD/RA Work Plan.

3.2 Task 2: Pre-Design Studies

Respondents shall perform pre-design studies to supplement the available technical data in order to obtain the information necessary to fully implement the remedial action. These pre-design studies may include the following, but others may be found to be necessary:

- soil and sediment studies and observations to determine the line of travel for the ISW;
- wetlands mitigation activities, the identification of areas that will remain outside the primary containment area that contain contaminants above acceptable limits and which will have to be excavated to remove these contaminants;
- the identification of areas in the ponded area from which such items as tires and metal and other debris will have to be removed;
- determination of the extent of the contamination outside the northeast side of the existing slurry wall;
- pilot scale trial for the SVE system; and
- treatability studies for water discharge from the site, if necessary.

Prior to beginning any of these studies the Respondents shall submit to USEPA, for its approval in consultation with the State, a Work

Plan that fully details the study and includes necessary sampling plan, quality assurance projects plan, and health and safety plan, where new ones are needed; previously approved documents may be used where appropriate.

Respondents shall furnish all services needed for the studies that are done, including field work, materials, supplies, labor, equipment, data procurement, and data analysis. Sufficient sampling, testing, and analysis shall be done to fully support the design of the system.

Respondents shall submit to USEPA and the State a report or reports that include all data collected during a study, the results of the study, and recommendations based on the results.

3.3 Task 3: Remedial Design

Respondents shall prepare and submit to USEPA for approval, in consultation with the State, construction plans and specifications needed for the implementation of the remedial action described in the ROD Amendment and this SOW. The design reports and construction plans and specifications shall be completed in a manner consistent with relevant portions of current Superfund remedial design and remedial action guidance. Documents will be prepared and may be submitted separately for the following tasks: intermediate slurry wall; SVE system; extracted groundwater management for maintenance of proper gradient across the slurry wall; cap; and operation and maintenance. Respondents shall meet with USEPA, as necessary, to discuss design issues.

Respondents shall develop design plans and specifications which, where applicable, shall include, but not be limited to, the following:

a) discussion of the design strategy and the design basis, including:
   - compliance with all applicable or relevant and appropriate requirements; and
   - minimization of adverse effects to the environment and to human health;
b) discussion of all significant technical factors including:
   - use of currently accepted environmental control measures and technologies; and
   - the constructability of the design;
c) discussion of the assumptions made and detailed justifications for these assumptions;
d) discussion of possible sources of error and possible operation and maintenance problems;
e) detailed drawings for the proposed design including:
   - qualitative flow sheets; and
   - quantitative flow sheets;
f) tables listing all necessary equipment and equipment specifications;
g) tables giving material and energy balances; and

h) appendices, including:
- sample calculations (one example presented and explained clearly for significant or unique design calculations);
- derivation of equations essential to understanding the report; and
- results of laboratory or field tests.

In addition, the design packages shall contain the plans listed and described in the rest of this section.

Respondents shall develop and submit to USEPA for approval the detailed design in up to four phases, as follows and as described below: preliminary design package (30 percent complete), intermediate design (60 percent complete, if required by USEPA), prefinal design (95 percent complete, if required by USEPA), and final design (100 percent complete).

The following shall be included in the preliminary, intermediate, prefinal and final design submittals: a list of the permitting authorities; a list of required construction/operating permits; an estimate of the time required by the permitting agencies to process the permit application(s); a list of the monitoring and/or compliance testing requirements; and a list of all regulations governing any aspect of the remedial design or remedial action.

The preliminary design shall describe the technical requirements of the remedial action in a manner sufficient to allow a meaningful review to determine whether the final design will provide for an acceptable remedial action or remedial action component.

The intermediate design shall fully address all comments made on the preliminary design and shall include, as needed and where not already submitted: the first draft of the construction quality assurance plan, operation and maintenance (O&M) quality assurance project plan (QAPP), and field sampling plan (FSP); a draft O&M plan; the design analysis; and plans and specifications for the remedial action. USEPA may waive the requirement for an intermediate design if it determines that the preliminary design sufficiently addresses the technical requirements of the remedial action to provide the basis for an acceptable prefinal design.

The prefinal and final designs shall fully address all comments made on the preceding design submittal. USEPA may waive the requirement for a prefinal design if the previous design submittal has demonstrated that such a design is not necessary. If a bid solicitation is to be placed, the final design shall include drawings and specifications suitable for bid preparation. The prefinal and final design packages shall include, as applicable, the construction quality assurance plan, O&M QAPP, FSP, the design analysis, final construction drawings and specifications, and construction schedule.

Respondents shall ensure that drawings are consistent with the specifications throughout the prefinal and final designs. The final design shall sufficiently describe the technical requirements of the remedial action so as to permit meaningful review to determine whether the remedial action or the element of the remedial action will accomplish the objectives of the ROD Amendment and this SOW. Supporting data and documentation shall be provided with the design documents which defines the functional aspects of the project. Construction drawings shall be clear and well organized. Design analysis and calculations shall be included with the submission.

The prefinal or final design package shall include provisions for a pre-construction conference including all parties involved in the remedial action in order to establish relationships among the parties and to help clarify the schedule, expectations, scope, requirements, roles and responsibilities, procedures for handling disputes, emergency procedures and other issues for the project.

Respondents shall develop and submit to USEPA for approval, in consultation with the State, an operation and maintenance plan (or plans) to provide for the long-term operation, maintenance, and monitoring of the remedial action or components of the remedial action. The final form of the plan(s) will be due prior to when the plan(s) must be implemented, with the draft(s) submitted sufficiently in advance to accomplish this. The O&M plan may incorporate portions of the existing, approved O&M Plan. The O&M plan shall describe the following, as appropriate: normal operation and maintenance; potential operating problems; routine monitoring and testing; corrective actions; health and safety for O&M, including a contingency plan for any failures that might result in hazards at the site during the O&M period; and long term operation and maintenance. The O&M plan shall cover record retention procedures and reporting schedules. As part of the O&M plan, Respondents shall establish a monitoring program in order to assess whether the remedial activities comply with the ROD Amendment, and to the extent relevant and not otherwise amended or superseded by the ROD Amendment, in the Explanation of Significant Differences dated October, 1991, the Record of Decision dated June 30, 1989, the Record of Decision dated September 20, 1988, this SOW, and the UAO and whether new or further corrective measures need to be taken at the Site. The O&M Plan will describe the records that will be developed for the operation and maintenance program.

Respondents shall develop construction quality assurance plans for the components of the remedial action, where these are appropriate. These shall describe the following: responsibilities and authorities of key personnel and organizations; qualifications of key personnel; all necessary inspection activities; all necessary sampling requirements; data management practices and data interpretation methods; corrective measures; and methods of documentation.

The technical specifications governing all treatment systems shall include any necessary contractor requirements for providing:

appropriate service visits by experienced personnel to supervise the installation, adjustment, startup, and operation of the system; and appropriate operational procedures and training.

Respondents shall demonstrate that the components of the remedial action will comply with Federal, State and local regulations. All applicable or relevant and appropriate requirements identified in the ROD Amendment, and to the extent relevant and not otherwise amended or superseded by the ROD Amendment, in the Explanation of Significant Differences dated October, 1991, the Record of Decision dated June 30, 1989, the Record of Decision dated September 20, 1988, this SOW, and the UAO shall be analyzed and incorporated into the design.

Respondents shall obtain, complete, and tender all required applications to the appropriate permitting authorities. Copies of all correspondence from permitting agencies which either describe permit requirements or indicate that no permits are necessary shall be furnished to USEPA.

3.4 Task 4: Remedial Action

Following approval by USEPA of the final design(s), Respondents shall construct and operate the elements of the remedial action in accordance with the approved final design plan(s), specifications, and schedule(s).

Before construction of any element of the remedial action begins, allowance shall be made for a preconstruction meeting and inspection to be held at the site. The purpose of these inspections and meetings is to identify and resolve any potential problems with the action. This meeting and inspection will involve, at a minimum, USEPA and the Respondents' Project Coordinator and Remedial Action Contractor(s). Any of these inspections and meetings may be waived with the approval of USEPA in consultation with the State. The meetings and inspections shall be documented by a designated person and minutes will be transmitted to all parties.

Upon preliminary completion of appropriate portions of the construction, Respondents shall notify USEPA and the State for the purposes of conducting a prefinal inspection. The pre-final inspection shall consist of a walk-through inspection of the relevant parts of the project site. The inspection is intended to determine whether the relevant portion of the project construction is complete and consistent with the contract documents, including any changes that have been approved, and the remedial action to be performed. Any outstanding construction items discovered during the inspection shall be identified and noted. Additionally, treatment equipment shall have been operationally tested prior to the inspection by the Respondents, and the Respondents shall certify that the equipment has performed to meet the purpose and intent of the specifications. Retesting shall be completed where deficiencies have been revealed. The Respondents shall prepare a prefinal

inspection report outlining any outstanding construction items, actions required to resolve these items, completion dates for these items, and a proposed date for the final inspection, if one is necessary.

Upon completion of any outstanding construction items identified in the prefinal inspection, Respondents shall notify USEPA and the State for the purposes of conducting a final inspection, if one has been determined by USEPA to be necessary. The final inspection shall consist of a walk-through inspection. The prefinal inspection report will be used as a checklist with the final inspection focusing on the outstanding construction items identified in the prefinal inspection. Confirmation shall be made that outstanding items have been resolved.

Following a successful final report, Respondents shall submit a report in which a registered professional engineer and the Respondents' Project Coordinator shall state that the remedial action or this element of the remedial action has been constructed in accordance with the design and specifications or that the remedial action has been completed in full satisfaction of the requirements of the UAO. The written report shall include as-built drawings signed and stamped by a professional engineer. The report shall contain the following statement, signed by a responsible corporate official of a Respondent or the Respondents' Project Coordinator:

> To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

3.5 Task 5: Operation and Maintenance

Respondents shall perform long term operation and maintenance of the elements of the remedial action in accordance with the approved plans, specifications, and schedules.

3.6 Task 6: Performance Monitoring

Respondents shall monitor the site to ensure that all performance standards continue to be met. Primarily, in the long term, these are that concentrations of contaminants in the groundwater outside the existing slurry wall remain below the TCLs and the elevation of the groundwater in the primary containment area is maintained to provide an inward gradient across the slurry walls. In the short term, the SVE system is to be monitored to establish that emissions from this system do not exceed acceptable levels and to determine the progress of its operation. The cap is to be monitored to ensure that it remains effective.

4.0 CONTENT OF SUPPORTING PLANS

The documents listed here are ones that must be prepared and submitted as outlined in section 3. of this SOW. In some cases, these documents already exist and new documents need not be prepared. The following describes the content of each of these supporting plans.

4.1 Quality Assurance Project Plan

The quality assurance project plan (QAPP), covering sample analysis and data handling for samples collected in all phases of future Site work, shall be prepared in accordance with the UAO, USEPA's Interim Guidelines and specifications for preparation of Quality Assurance Project Plans (QAMS-005/80), and all other guidance identified by USEPA, including the model QAPP developed for Region V. The Respondents shall attend a pre-QAPP meeting with U.S. EPA and submit a draft QAPP to U.S. EPA for review and approval.

4.2 Health and Safety Plan

The health and safety plan shall be designed to protect on-site personnel and area residents from physical, chemical and all other hazards posed by activities during remedial design and remedial action. The safety plan shall follow U.S. EPA guidance and all OSHA (Occupation Safety and Health Administration) requirements as outlined in 29 CFR 1910 and 1926.

Either separately or as part of the health and safety plan, a contingency plan will describe the procedures to be used in the event of an accident or emergency at the site.

These plans must be submitted in final form before any field work can proceed that these plans will address.

4.3 Field Sampling Plan

The field sampling plan is described in *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA*, October 1988. The field sampling plan or plans should supplement the QAPP and address all sample collection activities that will be done for pre-design studies and monitoring and similar testing.

5.0 SCHEDULE

It is planned that the construction of the remedial action, including the seeding of the cap and other areas, will be completed by the fall of 1995. A schedule shall be developed that will accomplish this.